

Technical Paper No. 340

**The Validity and Reliability of Fisheries Harvest
Monitoring Methods, Sitka 2005**

by

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and

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January 2012

Alaska Department of Fish and Game

Division of Subsistence



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Weights and measures (metric)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

Weights and measures (English)

cubic feet per second	ft ³ /s
foot	ft
gallon	gal
inch	in
mile	mi
nautical mile	nmi
ounce	oz
pound	lb
quart	qt
yard	yd

Time and temperature

day	d
degrees Celsius	°C
degrees Fahrenheit	°F
degrees kelvin	K
hour	h
minute	min
second	s

Physics and chemistry

all atomic symbols

alternating current	AC
ampere	A
calorie	cal
direct current	DC
hertz	Hz
horsepower	hp
hydrogen ion activity (negative log of)	pH
parts per million	ppm
parts per thousand	ppt, ‰
volts	V
watts	W

General

all commonly-accepted abbreviations
e.g., Mr., Mrs., AM, PM, etc.

all commonly-accepted professional titles e.g., Dr., Ph.D., R.N., etc.

Alaska Administrative Code	AAC
at	@

compass directions:

east	E
north	N
south	S
west	W

copyright	©
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corporate suffixes:

Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.

et alii (and others)	et al.
----------------------	--------

et cetera (and so forth)	etc.
--------------------------	------

exempli gratia (for example)	e.g.
------------------------------	------

Federal Information Code	FIC
--------------------------	-----

id est (that is)	i.e.
------------------	------

latitude or longitude	lat. or long.
-----------------------	---------------

monetary symbols (U.S.)	\$, ¢
-------------------------	-------

months (tables and figures):	first three letters (Jan, ..., Dec)
------------------------------	-------------------------------------

registered trademark	®
----------------------	---

trademark	™
-----------	---

United States (adjective)	U.S.
---------------------------	------

United States of America (noun)	USA
---------------------------------	-----

U.S.C.	United States Code
--------	--------------------

U.S. state	use two-letter abbreviations
------------	------------------------------

(e.g., AK, WA)

Measures (fisheries)

fork length	FL
mid-eye-to-fork	MEF
mid-eye-to-tail-fork	METF
standard length	SL
total length	TL

Mathematics, statistics

all standard mathematical signs, symbols and abbreviations

alternate hypothesis	H _A
----------------------	----------------

base of natural logarithm	e
---------------------------	---

catch per unit effort	CPUE
-----------------------	------

coefficient of variation	CV
--------------------------	----

common test statistics	(F, t, χ^2 , etc.)
------------------------	-------------------------

confidence interval	CI
---------------------	----

correlation coefficient (multiple)	R
------------------------------------	---

correlation coefficient (simple)	r
----------------------------------	---

covariance	cov
------------	-----

degree (angular)	°
------------------	---

degrees of freedom	df
--------------------	----

expected value	E
----------------	---

greater than	>
--------------	---

greater than or equal to	≥
--------------------------	---

harvest per unit effort	HPUE
-------------------------	------

less than	<
-----------	---

less than or equal to	≤
-----------------------	---

logarithm (natural)	ln
---------------------	----

logarithm (base 10)	log
---------------------	-----

logarithm (specify base)	log ₂ , etc.
--------------------------	-------------------------

minute (angular)	'
------------------	---

not significant	NS
-----------------	----

null hypothesis	H ₀
-----------------	----------------

percent	%
---------	---

probability	P
-------------	---

probability of a type I error (rejection of the null hypothesis when true)	α
--	----------

probability of a type II error (acceptance of the null hypothesis when false)	β
---	---------

second (angular)	"
------------------	---

standard deviation	SD
--------------------	----

standard error	SE
----------------	----

variance	
----------	--

population	Var
------------	-----

sample	var
--------	-----

TECHNICAL PAPER NO. 340

**THE VALIDITY AND RELIABILITY OF FISHERIES HARVEST
MONITORING METHODS, SITKA 2005**

by

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ABSTRACT

This study reviewed subsistence and personal use salmon harvest monitoring methods used by the Alaska Department of Fish and Game (ADF&G) to estimate harvests for sockeye salmon *Oncorhynchus nerka*, coho salmon *O. kisutch*, Chinook salmon *O. tshawytscha*, pink salmon *O. gorbuscha*, and chum salmon *O. keta* in Sitka, Alaska. Harvest estimates based on subsistence permit data were compared with harvest estimates based on in-person household interview survey data. ADF&G Division of Subsistence household harvest surveys in the communities of Southeast Alaska typically document substantially higher harvest levels than those reported on subsistence/personal use salmon permits. The Sitka Tribe of Alaska (STA) conducted the in-person household interviews. The following information was collected during the in-person interviews: harvest numbers for each species of salmon; types of fishing gear used; and location of harvests. Harvest levels reported from the household interviews were significantly higher (16,171 salmon) than those reported on the returned permits (6,597 salmon). The largest disparity between the numbers reported on the surveys and the numbers reported on the permits was in the number of Chinook salmon harvested. This result reinforces the hypothesis that because the household survey included sport fishing gear (rod and reel and trolling gear), those harvest levels would be greater than the levels reported on the permits, which include only subsistence/personal use gear.

Key words: Subsistence fishing, personal use fishing, Pacific salmon, sockeye salmon, Chinook salmon, coho salmon, pink salmon, chum salmon, Sitka, Southeast Alaska.

INTRODUCTION

This report is the result of a project to review monitoring methods used to estimate salmon harvested under subsistence and state personal use¹ regulations in Sitka, Alaska. Similar research has been conducted in Kake, Hoonah, Angoon, Petersburg, Wrangell, and Yakutat (Walker 2009). Researchers hypothesized that because household surveys include sport fishing gear (rod and reel and trolling gear), those reported harvest levels would be greater than the levels reported on permits, which include only subsistence personal use gear. The objectives for the project were to:

1. Develop community-level salmon harvest estimates from household survey data for 2005.
2. Compare community and household-level salmon harvest estimates derived from harvest surveys with the data reported on subsistence/personal use salmon permits.

STATE SUBSISTENCE AND PERSONAL USE SALMON FISHERIES IN SITKA

REGULATORY BACKGROUND

The State of Alaska Department of Fish and Game (ADF&G) Southeast fisheries management region includes all waters of Alaska between the latitude of Cape Muzon at the tip of Prince of Wales Island at Dixon Entrance to Cape Suckling on the Gulf of Alaska. ADF&G divides the region into 7 subsistence fisheries management areas, which are the same as for the state commercial salmon and shellfish fisheries: the Yakutat area, the Haines area, the Juneau area, the Sitka area (Figure 1), the Petersburg area, the Wrangell area, and the Ketchikan area. Subsistence salmon fisheries in the waters customarily used by the community of Sitka are under the management responsibility of the ADF&G Division of Commercial Fisheries' Sitka area office. Annual harvest assessment programs, which rely on a permit-based reporting system, are a subsistence and personal use fishery management tool used in each area. With the exception of the Yakutat area, the Alaska Board of Fisheries has designated specific Southeast

1. A type of noncommercial fishery established on an area-by-area basis by the Alaska Board of Fisheries to allow Alaska residents to take, for consumption as food or for use as bait, larger amounts of resources and with more efficient gear than allowed under state sport regulations.

region waters open to subsistence and personal use fishing in each area and has set daily or annual limits, seasons, and allowable gear types for those fisheries (Brown et al. 2005:161).

Tlingit, Haida, and Tsimshian fishers have relied on trolling with hook and line to harvest Chinook salmon *Oncorhynchus tshawytscha* and coho salmon *O. kisutch* in Southeast Alaska for centuries. By the late 1800s, Tlingit trolling gear included a wooden reel (*deix gwatla* in Tlingit) and a small rod. By the 1940s, manufactured sport fishing tackle (rod and reel gear) was commonly used throughout the region (Wolfe 1989). Under current federal subsistence halibut fishing regulations, rod and reel tackle is allowable subsistence halibut fishing gear. However, in Southeast Alaska, since rod and reel gear is generally not allowed under state subsistence or personal use salmon fishing regulations, salmon caught or harvested with rod and reel tackle must be considered “sport-caught” fish, and thus are not documented by the current subsistence permit system (with the exception of the Redoubt Bay subsistence sockeye salmon fishery [5 AAC 01.760]). Therefore, subsistence harvests reported on returned permits may under represent total harvests, since there is no requirement to list rod and reel catches or harvests. (Brown et al. 2005:2,8). Consequently, both rod and reel and trolling gear are defined, for the purposes of this report, as “sport gear.”

2005 SITKA MANAGEMENT AREA SUBSISTENCE AND PERSONAL USE SALMON PERMITS

In 2005, ADF&G Division of Commercial Fisheries area management biologists issued subsistence and personal use salmon fishing permits which specify waters open to fishing, species open to harvest, allowable gear, and daily (or annual) harvest and possession limits. The 2005 Sitka permit is shown in Appendix A. The permit conditions required that the harvest record printed on the permit be returned by mail, or the data returned by telephone, at the end of each fishing season. Only one permit was issued per household, and the permit holder and other household members authorized to fish with this permit were required to be Alaska residents as defined by AS 16.05.940 (26). The 2005 Sitka permit also advised the permittee that failure to comply with reporting requirements, including the return of the harvest report, made the permittee ineligible to receive a subsistence or personal use permit during the following calendar year. (5 AAC 01.015 (c)). However, area office staff generally accepted a previous year’s harvest report at the time of application for the current year’s permit.

The 2005 subsistence/personal use salmon permit for the Sitka Management Area also reminded permittees that sport-taken and subsistence/personal use-taken salmon could not be possessed on the same day (5 AAC 01.745). Chinook salmon, steelhead trout *O. mykiss*, and Dolly Varden/Arctic char *Salvelinus malma*, could not be targeted but could be retained if taken incidentally by gear operated under the subsistence and personal use fisheries (5 AAC 01.730). Additionally, salmon streams flowing across or adjacent to the Sitka road system were closed to subsistence and personal use fishing, and the Indian River was closed to subsistence and personal use fishing downstream of the Sawmill Creek Road bridge (5 AAC 01.747). With the exception of Redoubt Bay, salmon could not be taken by rod and reel gear (5 AAC 01.010, 5 AAC 01.760). Allowable subsistence gear included hand purse seines, beach seines, drift gillnets, dip nets, gaffs, and spears (5 AAC 01.010). Drift gillnets could not exceed 50 fathoms (300 feet) in length (5 AAC 01.010). Set gillnets were not allowed (5 AAC 01.720). Under the terms of the 2005 permit, gillnets were prohibited at Silver Bay/Salmon Lake. In Redoubt Bay, the use of rod and reel gear was allowed under sport fishing regulations (5 AAC 01.760).

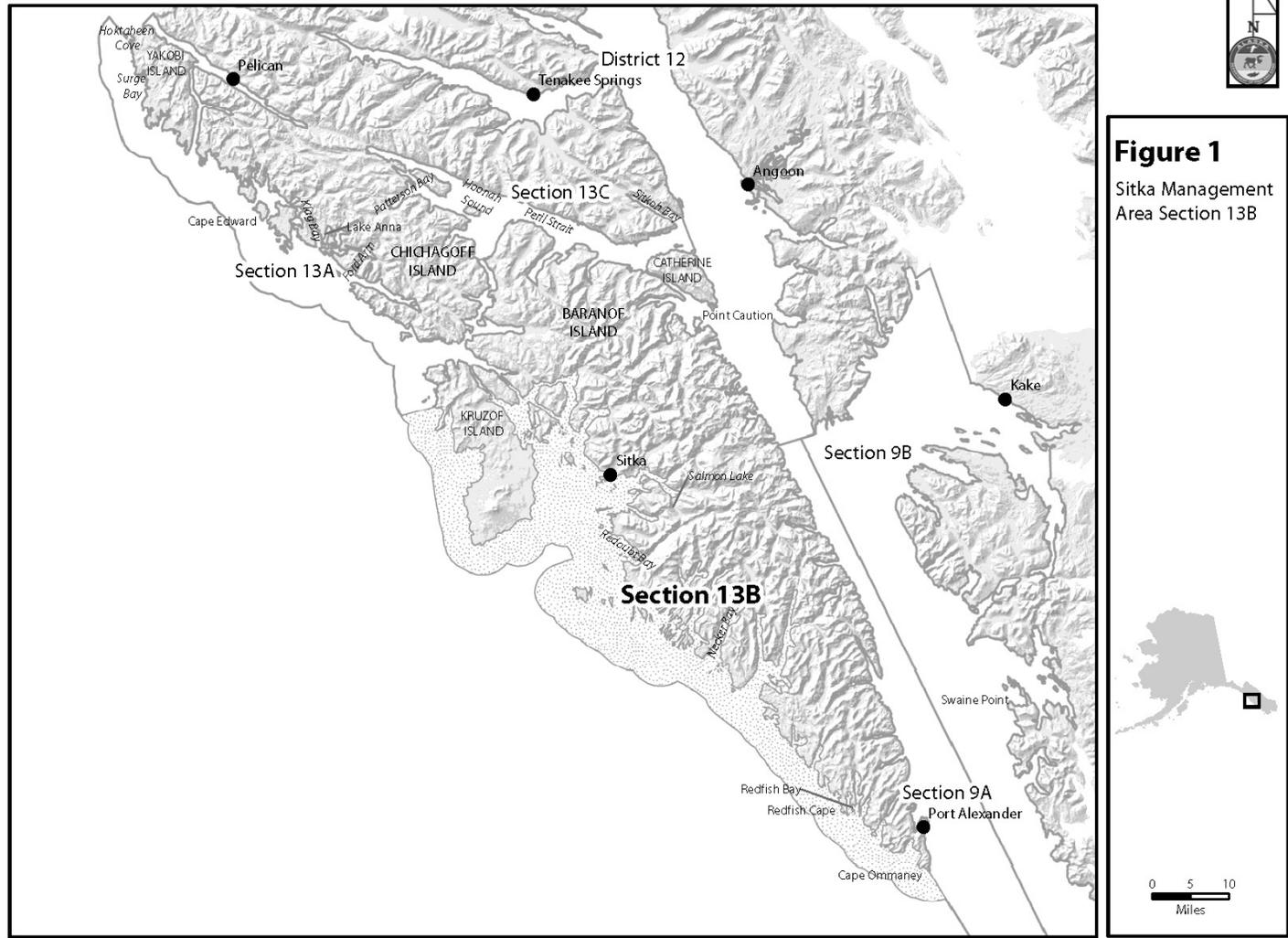


Figure 1
Sitka Management Area Section 13B

Figure 1.—Map of study area.

In the Sitka Management Area, the customary and traditional use areas² for pink *O. gorbuscha*, chum *O. keta*, coho, and Chinook salmon included all waters of District 13, Section 9-A north of 56°25.6' N. latitude (Swaine Point); and Section 12-A along the shorelines of Baranof and Catherine islands north of 57°14.75' N. latitude (Point Caution) (5 AAC 01.716). The customary and traditional use areas for sockeye salmon *O. nerka* included Section 13-A on Yakobi Island north of the Surge Bay light and south of the latitude of Cape Edward; Section 13-B north of the latitude of Redfish Cape; Section 13-C; Section 9-A north of the latitude of Swaine Point; and Section 12-A along the shorelines of Baranof and Catherine islands north of the latitude of Point Caution (5 AAC 01.716).

In these areas, the 2005 open season for pink salmon was July 15 through September 30, and July 15 through October 31 for chum salmon. Also in these areas, the 2005 season for sockeye salmon opened June 1 and closed on varying dates at the various locations: July 20 at Gut Bay and Hoktaheen Cove, and also at Takanis Bay, which was managed under personal use regulations (5 AAC 77.682). July 25 was the closing date at Leo's Anchorage and July 31 at Politofski Lake. Salmon Lake and Ford Arm Lake were closed by emergency order on July 1, 2005, due to low sockeye salmon returns. August 15 was the closing date at Hanus Bay (Lake Eva), and August 31 at Necker Bay, Redfish Bay, Redoubt Bay, and Sitkoh Bay.

Limits for sockeye salmon ranged from 10 in possession 10 per year at Leo's Anchorage to 100 in possession/100 per year at Necker Bay³. Takanis, Surge, and Klag bays, Hoktaheen Cove, Ford Arm, Falls Lake, Politofski Lake, Hanus Bay (Lake Eva), and Lake Anna had possession and annual limits of 50 fish. The limits at Salmon Lake and Gut Bay were 10 in possession/20 per year. The limits at Redfish Bay were 50 in possession/100 per year. In all areas, the possession and annual limits for chum salmon were 50, and 50 in possession/150 per year for pink salmon.

Redoubt Bay and Lake Sockeye Salmon Management Plan

In January 2003, the Alaska Board of Fisheries adopted the Redoubt Bay and Lake Sockeye Salmon Management Plan (5 AAC 01.760). The plan provided a management approach for those subsistence, sport, and commercial fisheries that harvested Redoubt Lake sockeye salmon and was based on an optimal escapement goal of 7,000 to 25,000 fish. Under the management plan, if the projected total escapement was greater than 30,000 fish, then the subsistence household limits would be 25 per day/100 per year. The management plan also allowed for harvest under a community permit if the projected total escapement was greater than 40,000 fish. In 2005, the season opened June 1 with limits of 10 in possession/50 per year. On July 16, the limits were increased administratively to 25 in possession/100 per year. Authorized gear in the Redoubt Bay and Lake subsistence salmon fishery included gaffs, spears, dip nets, and hook and line attached to a rod or pole. A subsistence salmon fishery permit holder could snag salmon in the waters of Redoubt Bay north (seaward) of a line approximately 100 yards from the base of the waterfall, as marked by ADF&G⁴.

The following provisions (5 AAC 01.760) applied to the Redoubt Bay community harvest area, which were described as the waters of Redoubt Bay that were south of 56° 54.71' N. lat. and west of 135° 18.88' W. long.:

1. All persons and households for whom the designated community harvester was fishing were listed on the permit.

2. Under AS 16.05.258, the Alaska Board of Fisheries identifies the fish stocks and game populations that are customarily and traditionally taken or used for subsistence.

3. Under 5 AAC 39.975 (23) possession limit means the maximum number of fish a person may have in his possession if the fish have not been canned, salted, frozen, smoked, dried or otherwise preserved.

4. Generally, marine waters are open to snagging (hooking a fish elsewhere than in the mouth) and fresh waters are not.

2. The designated community harvester had to have in possession an individual subsistence harvest permit for each person or member of a household that was listed on the community harvest permit.
3. The total harvest could not exceed the combined harvest and bag limits of the persons listed on the community harvest permit, or the daily bag and possession limit of 500 fish, whichever was less.
4. A person qualified to obtain a subsistence salmon fishing permit in the Redoubt Bay fishery could designate only one community harvester at a time to harvest fish on his or her behalf.
5. A designated community harvester had to record, on each individual subsistence permit, the number of fish harvested for each person, and the amount recorded on the permit could not exceed the daily bag and possession limits that the person was allowed under his or her individual permit.
6. The legal gear was a beach seine, dip net, gaff, spear, or a hook and line attached to a rod or pole.

Directed Subsistence Coho Salmon Fishing Season

In 2005, the Alaska Department of Fish and Game opened a directed coho salmon subsistence fishing season in the Sitka area from August 16 through October 31. The directed coho salmon fishing season at Redoubt Lake and at Necker, Redfish and Sitkoh bays was September 1 through October 31. Limits for coho salmon were 20 in possession/40 per year. Allowable gear included dip nets, gaffs, spears, hand purse seines, cast nets, beach seines, and drift gillnets up to 50 fathoms in length. Use of hook and line attached to a rod or pole was not authorized under this permit. Subsistence coho salmon fishing was allowed only in the customary and traditional areas as defined by the permit conditions previously mentioned.

Southeast Harvest Monitoring Program

The Division of Commercial Fisheries stores the salmon harvest data reported on returned subsistence and personal use permits into the “Integrated Fisheries database/Alexander Archipelago” (ALEX). Data from ALEX were first added to the Alaska Subsistence Fisheries Database, a Division of Subsistence product, for the calendar year 2000, as part of the “Statewide Subsistence Fisheries Harvest Monitoring Strategy” project, funded by the U. S. Fish and Wildlife Service (USFWS) Office of Subsistence Management (OSM) (Fall and Shanks 2000).

Although ALEX provides managers with information of subsistence harvest levels, there are limitations to the permit system which may hinder timely management decisions and create difficulties in modeling complex biological systems. Reasons for these limitations are discussed below.

Subsistence harvest management is challenging in the Southeastern region of Alaska because of conservation concerns associated with the small sizes of the streams, which give rise to small, easily exploited salmon populations. Fishery managers consult the ALEX database when making fishery management decisions; however, the current monitoring program in the Southeast region does not account for commercially-caught salmon retained for home use, a practice allowed under state regulation, nor are harvests with rod and reel documented through the permit system (except sockeye salmon at Redoubt Bay). Such harvests are allowed only under sport regulations, and are not reported on subsistence and personal use permits.

Subsistence and personal use harvests are reported and recorded by commercial fishing districts and statistical areas, not by the customary and traditional fishing areas identified by the Alaska Board of Fisheries. Thus, subsistence and personal use fisheries often fall within the jurisdiction of two or more Division of Commercial Fisheries management area offices. However, reports grouped by customary and traditional area may not be generated from ALEX.

Permit conditions provide subsistence opportunities guided by Alaska statute and regulation under the sustained yield principle. However, during the course of this project, as well as during other Division of Subsistence projects, some fishers have expressed concerns that the Southeast regional permit program, specifically, the daily possession and annual limits, opening and closing dates, and in some cases, gear restrictions, does not provide opportunity for traditional practices, such as the use of their local knowledge of the resource, the specialization of some fishers in resource harvest activities (high harvesters), and the sharing of resources with families and households. Therefore, some fishers may not adhere to permit requirements: they may use more than one permit per household; they may be carrying permits for several households when fishing; or they may report the permit limit rather than the actual amount harvested. Fishing without a permit, or at locations not listed on the permit also occurs. If one or more of these strategies is employed, the resulting data provided to the Department may be different from actual harvests, and compromise management efforts.

When household surveys occur, these harvest estimates are not readily comparable with data from returned permits since the data from returned permits are not expanded to include unreturned permits. Expansion of data typically includes substituting mean values from the returned permits to the unreturned permits. However, unreturned permits could contain harvests, or might not have been used that season, or the harvest could have been included on another permit. Therefore, harvest levels and characteristics from the returned permits are compiled as reported.

METHODS

HOUSEHOLD SURVEY

In-person household surveys, though more expensive to administer, can help yield more precise information over time. Consistent proportions of total fishers and nonfishers, and low or high harvesters emerge, and allow for expansion of data due to nonresponse. In-person household interviews were conducted for this study by Sitka Tribe of Alaska (STA), using the instrument shown in Appendix B. The following information was collected for the 12-month study period of November 2004 to October 2005:

1. Harvest numbers for each species of salmon caught by subsistence/personal use gear.
2. All types of fishing gear used.
3. Location of harvests.

The sample was selected from the fishers who were issued subsistence salmon permits for Sitka from 2000 to 2004, according to the ALEX database. The names and addresses of households obtaining permits in at least 3 of those 5 fishing seasons were extracted⁵. This list of fishers was then reviewed by STA staff and others knowledgeable about the community. The sample was further refined by eliminating duplicate names, grouping permitted members of the same household together, (based on identical post office boxes or telephone numbers), and removing those known to have moved away. This resulted in a sample of 426 subsistence fishing households. STA interviewers attempted to contact all households, and achieved 310 household interviews. Thirty-two households declined to participate (7.5%), 68 households could not be contacted (16%), and the residents of 16 households had moved away (3.8%).

The harvests reported on permits were compared with those collected from the household surveys in order to discover congruence in the 2 sets of data. The harvest information from both the permits and surveys was expanded with strata weights in order to derive overall estimates, according to the following formula:

$$\text{Estimated harvest for population} = \sum_i \left(\frac{n}{h_i} \right) (Strtwt_i) \quad (1)$$

5. This process was conducted in 2004 to identify a survey sample. These permittees may not have acquired a permit in 2005.

Where:

$$Strtwt_i = \frac{N_i}{n_i}, \text{ and}$$

h_i = Reported harvest on permit/survey, and

N_i = Population of the known universe of fishers, and

n_i = Sample population.

The average harvest, standard error, and high and low harvest estimates at the 95% confidence interval for each species were calculated.

RESULTS

2005 HARVESTS AS REPORTED BY PERMITS

In 2005, 676 Southeast Alaska subsistence/personal use salmon permits were issued to individuals with Sitka mailing addresses, and 666 were returned (98.5%). Although the total number of permits issued in 2005 was smaller than the 2004 number, 2005 saw a higher rate of returned permits (Table 1). Between 2000 and 2004, the number of permits issued ranged from 519 to 778, with the high in 2004. The 2005 number of permits issued was slightly higher than the average of the preceding 5 years (643 permits issued). The range of permits issued in the years 2000–2005 was 519 to 778, and the return percentages ranged from 93.8% to 97.1% in the same time period. The bulk of the permits were returned to the ADF&G office in Sitka either in person or by the U.S. Postal Service; a few harvests were reported by telephone.

Table 1.–Number of subsistence/personal use permits issued, number returned, and rate of return for Sitka

Year	Issued	Returned	Percentage Returned
2000	602	584	97.0
2001	519	504	97.1
2002	565	530	93.8
2003	750	716	95.5
2004	778	745	95.8
2005	676	666	98.5

For 2005, Sitka residents reported harvesting 6,354 sockeye salmon, representing 96.3% of the 6,597 total salmon harvest. Other species' harvest levels include coho (62), chum (13), Chinook (4), and pink (164). Most of the sockeye salmon harvests reported on the permits were taken with beach seines (2,681) and dip nets (2,869). These 2 methods of harvesting account for 87.3% of the total subsistence harvest. Of these harvests, the beach seine harvests took place primarily at fish camps at Klag Bay (1,197) and Necker Bay (1,341), while dipnetters harvested the majority of their fish in Redoubt Bay (2,384). These harvests represent 19% (Klag Bay), 21.3% (Necker Bay), and 37.8% of the total sockeye salmon harvest. Like sockeye, the majority of pink salmon were harvested with beach seines (79) and dip nets (54), while coho were harvested primarily with beach seines (25) and drift gillnets (19). Of all locations for salmon harvesting, Redoubt Bay showed the highest harvest level (2,843 total salmon). Because of the high (98.5%) return rate for permit holders, the unexpanded harvest numbers were very similar to the expanded ones. The largest difference in total harvest was for sockeye salmon: the reported harvest was 45 fewer fish than the estimated harvest (tables 2 and 3).

Table 2.—Salmon harvest reported on permits, Sitka 2005.

	Purse seine			Beach seine			Drift gillnet			Set gillnet			Dip net			Missing/unknown			All methods		
	Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest	
		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site
Coho salmon																					
Ford Arm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Katlina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nakwasina	0	0	0	12	19.4	38.7	19	30.6	61.3	0	0	0	0	0	0	0	0	0	31	50	100
Hanus Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hoktaheen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fish Camp–Klag Bay	0	0	0	13	21	72.2	0	0	0	5	8.1	27.8	0	0	0	0	0	0	18	29	100
Leo Anchorage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leo Lake/ Fortuna Straits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Necker Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redfish Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redoubt Bay	0	0	0	0	0	0	0	0	0	0	0	0	13	21	100	0	0	0	13	21	100
Salmon Lake Stream	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Silver Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sitka area streams	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sitkoh Lake Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Situk River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small Arm Whale Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All locations	0	0	0	25	40.3	40.3	19	30.6	30.6	5	8.1	8.1	13	20.1	20.1	0	0	0	62	100	100

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Table 2.–Page 2 of 5.

	Purse seine			Beach seine			Drift gillnet			Set gillnet			Dip net			Missing/unknown			All methods			
	Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		
		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site	Per species
Chum salmon																						
Ford Arm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Katlian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nakwasina	0	0	0	2	15.4	100	0	0	0	0	0	0	0	0	0	0	0	0	2	15.4	100	
Hanus Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hoktaheen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fish Camp–Klag Bay	0	0	0	2	15.4	40	0	0	0	3	23.1	60	0	0	0	0	0	0	5	38.5	100	
Leo Anchorage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leo Lake/ Fortuna Straits	0	0	0	0	0	0	1	7.7	100	0	0	0	0	0	0	0	0	0	1	7.7	100	
Necker Bay	0	0	0	1	7.7	100	0	0	0	0	0	0	0	0	0	0	0	0	1	7.7	100	
Redfish Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redoubt Bay	0	0	0	0	0	0	0	0	0	0	0	0	3	23.1	75	1	7.7	25	4	30.8	100	
Salmon Lake Stream	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Silver Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sitka area streams	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sitkoh Lake Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Situk River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small Arm Whale Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All locations	0	0	0	5	38.5	38.5	1	7.7	7.7	3	23.1	23.1	3	23.1	23.1	1	7.7	7.7	13	100	100	

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Table 2.–Page 3 of 5.

	Purse seine			Beach seine			Drift gillnet			Set gillnet			Dip net			Missing/unknown			All methods		
	Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest	
		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site
Chinook salmon																					
Ford Arm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Katlian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nakwasina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hanus Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hoktaheen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fish Camp–Klag Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leo Anchorage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leo Lake/ Fortuna Straits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Necker Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redfish Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redoubt Bay	0	0	0	0	0	0	0	0	0	0	0	0	1	25	100	0	0	0	1	25	100
Salmon Lake Stream	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Silver Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sitka area streams	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sitkoh Lake Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Situk River	0	0	0	0	0	0	0	0	0	3	75	100	0	0	0	0	0	0	3	75	100
Small Arm Whale Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All locations	0	0	0	0	0	0	0	0	0	3	75	100	1	25	100	0	0	0	4	100	100

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Table 2.–Page 4 of 5.

	Purse seine			Beach seine			Drift gillnet			Set gillnet			Dip net			Missing/unknown			All methods			
	Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		
		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site	Per species
Pink salmon																						
Ford Arm	0	0	0	4	2.5	100	0	0	0	0	0	0	0	0	0	0	0	0	4	2.5	100	
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	3.7	100	6	3.7	100	
Katlian	0	0	0	50	30.7	100	0	0	0	0	0	0	0	0	0	0	0	0	50	30.7	100	
Nakwasina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hanus Bay	0	0	0	0	0	0	2	1.2	100	0	0	0	0	0	0	0	0	0	2	1.2	100	
Hoktaheen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Fish Camp–Klag Bay	0	0	0	2	1.2	13.3	5	3.1	33.3	8	4.9	53.3	0	0	0	0	0	0	15	9.2	100	
Leo Anchorage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Leo Lake/ Fortuna Straits	0	0	0	0	0	0	2	1.2	100	0	0	0	0	0	0	0	0	0	2	1.2	100	
Necker Bay	2	1.2	8.3	22	13.5	91.7	0	0	0	0	0	0	0	0	0	0	0	0	24	14.7	100	
Redfish Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Redoubt Bay	0	0	0	0	0	0	0	0	0	0	0	0	54	33.1	90	6	3.7	10	60	36.8	100	
Salmon Lake Stream	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Silver Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sitka area streams	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sitkoh Lake Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Situk River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Small Arm Whale Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
All locations	2	1.2	1.2	78	47.9	47.9	9	5.5	5.5	8	4.9	4.9	54	33.1	33.1	14	7.4	7.4	163	100	1	

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Table 2.–Page 5 of 5.

	Purse seine			Beach seine			Drift gillnet			Set gillnet			Dip net			Missing/unknown			All methods					
	Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest				
		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site	Per species	Per site	
Sockeye salmon																								
Ford Arm	0	0	0	40	0.6	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	0.6	100
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Katlian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nakwasina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hanus Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hoktaheen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fish Camp–Klag Bay	0	0	0	1,188	18.8	79.1	134	2.1	9	45	0.7	3	135	2.1	9	0	0	0	1,502	23.8	100			
Leo Anchorage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leo Lake/ Fortuna Straits	0	0	0	0	0	0	10	0.2	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Necker Bay	45	0.7	2.3	1,331	21.1	69.3	200	3.2	10.4	0	0	0	346	5.5	18	0	0	0	1,922	30.5	100			
Redfish Bay	0	0	0	52	0.8	100	0	0	0	0	0	0	0	0	0	0	0	0	52	0.8	100			
Redoubt Bay	0	0	0	25	0.4	0.9	0	0	0	0	0	0	2,367	37.5	86.2	353	5.6	12.9	2,745	42.5	100			
Salmon Lake Stream	0	0	0	26	0.4	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Silver Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sitka area streams	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sitkoh Lake Creek	0	0	0	0	0	0	2	>0.1	100	0	0	0	0	0	0	0	0	0	2	>0.1	100			
Situk River	0	0	0	0	0	0	0	0	10	0.2	100	0	0	0	0	0	0	0	10	1.6	100			
Small Arm Whale Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All locations	45	0.7	0.7	2,662	42.2	42.2	346	5.5	5.5	55	0.9	0.9	2,848	45.1	45.1	353	5.6	5.6	6,309	100	100			

Table 3.—Expanded salmon harvests reported on permits, Sitka 2005.

	Purse seine			Beach seine			Drift gillnet			Set gillnet			Dip net			Missing/ unknown			All methods		
	Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest	
		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site
Coho salmon																					
Ford Arm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Katlian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nakwasina	0	0	0	12.1	19.4	38.7	19.1	30.9	61.3	0	0	0	0	0	0	0	0	0	31.2	50	100
Hanus Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hoktaheen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fish Camp– Klag Bay	0	0	0	13.1	21	72.2	0	0	0	5	8.1	27.8	0	0	0	0	0	0	18.1	29	100
Leo Anchorage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leo Lake/ Fortuna Straits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Necker Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redfish Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redoubt Bay	0	0	0	0	0	0	0	0	0	0	0	0	13.1	21.1	100	0	0	0	13.1	21	100
Salmon Lake Stream	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Silver Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sitka area streams	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sitkoh Lake Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Situk River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small Arm Whale Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All locations	0	0	0	25.2	40.3	40.3	19.1	30.9	30.6	5	8.1	8.1	13.1	21.1	21	0	0	0	62.5	100	100

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Table 3.--Page 2 of 5.

	Purse seine			Beach seine			Drift gillnet			Set gillnet			Dip net			Missing/ unknown			All methods			
	Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		
		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site	
Chum salmon																						
Ford Arm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Katlian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Nakwasina	0	0	0	2	15.5	100	0	0	0	0	0	0	0	0	0	0	0	0	2	15.4	100	
Hanus Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hoktaheen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Fish Camp- Klag Bay	0	0	0	2	15.5	40	0	0	0	3	23.2	60	0	0	0	0	0	0	5	38.5	100	
Leo Anchorage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Leo Lake/ Fortuna Straits	0	0	0	0	0	0	1	7.7	100	0	0	0	0	0	0	0	0	0	1	7.7	100	
Necker Bay	0	0	0	1	7.7	100	0	0	0	0	0	0	0	0	0	0	0	0	1	7.7	100	
Redfish Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Redoubt Bay	0	0	0	0	0	0	0	0	0	0	0	0	3	23.2	75	1	7.7	25.5	4	30.8	100	
Salmon Lake Stream	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Silver Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sitka area streams	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sitkoh Lake Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Situk River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Small Arm Whale Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
All locations	0	0	0	5	38.7	38.5	1	7.7	7.7	3	23.2	23.1	3	23.2	23.1	1	7.7	7.7	13.1	100	100	

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Table 3.--Page 3 of 5.

	Purse seine			Beach seine			Drift gillnet			Set gillnet			Dip net			Missing/ unknown			All methods			
	Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		
		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site	Per species
Chinook salmon																						
Ford Arm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Katlian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Nakwasina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hanus Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hoktaheen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Fish Camp- Klag Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Leo Anchorage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Leo Lake/ Fortuna Straits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Necker Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Redfish Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Redoubt Bay	0	0	0	0	0	0	0	0	0	0	0	0	1	25.2	100	0	0	0	1	25	100	
Salmon Lake Stream	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Silver Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sitka area streams	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sitkoh Lake Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Situk River Small Arm	0	0	0	0	0	0	0	0	0	3	75.5	100	0	0	0	0	0	0	3	75	100	
Whale Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
All locations	0	0	0	0	0	0	0	0	0	3	75.5	75	1	25.2	25	0	0	0	4	100	100	

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Table 3.--Page 4 of 5.

	Purse seine			Beach seine			Drift gillnet			Set gillnet			Dip net			Missing/ unknown			All methods			
	Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		
		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site	
Pink salmon																						
Ford Arm	0	0	0	4	2.5	100	0	0	0	0	0	0	0	0	0	0	0	0	4	2.4	100	
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	3.7	100	6	3.7	100	
Katlian	0	0	0	50.4	30.9	1	0	0	0	0	0	0	0	0	0	0	0	0	50.4	30.7	100	
Nakwasina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hanus Bay	0	0	0	0	0	0	2	1.2	100	0	0	0	0	0	0	0	0	0	2	1.2	100	
Hoktaheen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Fish Camp- Klag Bay	0	0	0	2	1.2	13.2	5	3.1	33.4	8.1	4.9	53.4	0	0	0	0	0	0	15.1	9.2	100	
Leo Anchorage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Leo Lake/ Fortuna Straits	0	0	0	0	0	0	2	1.2	100	0	0	0	0	0	0	0	0	0	2	1.2	100	
Necker Bay	2	1.2	8.3	22.2	13.6	91.7	0	0	0	0	0	0	0	0	0	0	0	0	24.2	14.7	100	
Redfish Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Redoubt Bay	0	0	0	0	0	0	0	0	0	0	0	0	54.4	33.4	90	6	3.7	10	60.4	36.8	100	
Salmon Lake Stream	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Silver Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sitka area streams	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sitkoh Lake Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Situk River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Small Arm Whale Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
All locations	2	1.2	1.2	78.5	48.2	47.8	9.1	5.6	5.5	8.1	4.9	4.9	54.4	33.4	33.1	12.1	7.4	7.4	164.1	100	100	

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Table 3.--Page 5 of 5.

	Purse seine			Beach seine			Drift gillnet			Set gillnet			Dip net			Missing/ unknown			All methods			
	Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		Harvest	Percent of total harvest		
		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site		Per species	Per site	Per species
Sockeye salmon																						
Ford Arm	0	0	0	40	0.6	100	0	0	0	0	0	0	0	0	0	0	0	0	40	0.6	100	
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Katlian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Nakwasina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hanus Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hoktaheen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Fish Camp- Klag Bay	0	0	0	1,196.60	19	79.1	135	2.1	9	45.3	0.7	3	136	2.2	9	0	0	0	1,512.90	23.8	100	
Leo Anchorage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Leo Lake/ Fortuna Straits	0	0	0	0	0	0	10.1	0.2	100	0	0	0	0	0	0	0	0	0	10	0	100	
Necker Bay	45.3	0.7	2.3	1,340.70	21.3	69.3	201.5	3.2	10.4	0	0	0	348.5	5.5	18	0	0	0	1,936.00	30.5	100	
Redfish Bay	0	0	0	52.4	0.8	100	0	0	0	0	0	0	0	0	0	0	0	0	52	0.8	100	
Redoubt Bay	0	0	0	25.2	0.4	0.9	0	0	0	0	0	0	2,384.20	37.8	86.2	355.6	5.6	12.9	2,765.00	43.5	100	
Salmon Lake Stream	0	0	0	26.2	0.4	100	0	0	0	0	0	0	0	0	0	0	0	0	26.2	0	100	
Silver Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sitka area streams	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sitkoh Lake Creek	0	0	0	0	0	0	2	>0.1	100	0	0	0	0	0	0	0	0	0	2	0	100	
Situk River	0	0	0	0	0	0	0	0	0	10.1	0.2	100	0	0	0	0	0	0	10.1	0	100	
Small Arm Whale Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
All locations	45.3	0.7	0.7	2,681.10	42.2	42.2	348.5	5.5	5.5	55.4	0.9	0.9	2,868.70	45.1	45.1	355.6	5.6	5.6	6,354.60	100	100	

2005 HARVESTS AS REPORTED FROM HOUSEHOLD SURVEYS

Table 4 shows expanded salmon harvests by sport gear type, species, and location. Tables 5 and 6 show the same for subsistence gear and for all gear. Table 7 shows species and pounds of salmon by subsistence gear type. Table 8 shows the same for sport gear. Table 9 shows harvest numbers, pounds of salmon, and household means for all methods. Table 10 shows the months in which Sitka residents fished for each species⁶.

A total of 16,171 fish (87,453 pounds) were harvested by all gear types. Subsistence methods were used to harvest 13,518 (84%) of the total fish harvested; 8,116 (60%) were harvested with dip nets and 5,148 (38%) with beach seines. An additional 2,652 fish were harvested using sport gear, meaning rod and reel or trolling gear. The household mean for salmon harvested by subsistence methods was 44 salmon (236 pounds), which increased to an average of 52 fish (282 pounds) per household when sport methods were included.

Sockeye salmon represented 91% (14,778) of the total fish harvested under any method. The vast majority of sockeye salmon, 91% (13,410), were taken by subsistence/personal use methods, primarily dip nets (55%) and beach seines (35%), but purse seines (0.8%) and drift gillnets (0.9%) were also used (Table 5). Twenty-one (0.1%) were taken while trolling, 941 (6%) were taken with rod and reel, and 405 (3%) were harvested with an unknown or missing sport fishing method. Forty-four percent of the sockeye (6,521) were harvested at Redoubt Bay, the single location with the most reported harvest. The greatest number of sockeye salmon harvested with rod and reel in one location (738) were also from Redoubt Bay, the only location where the 2005 subsistence permit documented rod and reel harvests (5 AAC 01.760).

As reported during household surveys, most coho salmon, 954 of 1,010 (94%), were harvested with sport methods, including unknown (Table 4). Nearly half of the overall coho harvest, 485 (48%), were caught while trolling, while 403 (40%) were caught with rod and reel. The harvest methods for the remaining 66 salmon (7%) were an unknown sport fishing method. Sitka area streams and Silver Bay yielded the largest coho harvests of all included locations, 278 (28%) and 118 (12%) respectively. However, locations labeled “other” comprised 38% of the total reported harvest. The remaining 56 coho salmon (6%) of the overall harvest were taken from Redoubt Bay by dip net, a subsistence/personal use method (Table 5).

Of the total harvest of 45 chum salmon reported by the household survey, less than half, 19 (42%), were taken with sport fishing methods (Table 4). More chum salmon (33%) were harvested by trolling than with rod and reel (9%). Nearly half of the total chum harvest reported (45%) was taken in one location, Redfish Bay, using the beach seining method (Table 5). The largest percentage of chum caught using a sport fishing method, trolling (18%), occurred in Sitka area streams. As reported in Table 5, the majority of the overall chum salmon harvest, 58% (26), was taken by beach seine, a subsistence/personal use method, from Redfish Bay (21) and Redoubt Bay (6).

Nearly all Chinook salmon, 1,291 (98%), were harvested with sport fishing methods (Table 4). Fifty-nine percent were taken by trolling and 39% with rod and reel. The largest numbers harvested were taken from Sitka area streams (97) and Silver Bay (93). A few Chinook salmon, 15 (1%), were harvested by beach seine, a subsistence/personal use method (Table 5).

Nineteen pink salmon were taken with sport fishing methods, and all by trolling (29%) (Table 4). The gear used for the remaining 71% of the total pink salmon harvest was unknown, but was still categorized under sport fishing methods. No pink salmon were harvested using subsistence/personal use methods (Table 5).

6. The tables represent calculated estimates, and show numbers to the nearest tenth of a percent. The narrative reports rounded whole numbers, to avoid presenting fractions of fish.

Dip nets were used to harvest the largest number of salmon (8,116), followed by beach seines (5,148). Purse seines and drift gillnets were used to harvest fewer salmon, 117 and 137 respectively. Purse seines and drift gillnets were used to harvest only one species, sockeye salmon. Sockeye salmon comprised a substantial portion of the beach seine and dip net harvests. Of the 8,116 salmon harvested by dip net, 8,048 were sockeye salmon, and of the 5,148 salmon harvested by beach seine, 5,107 were sockeye (Table 7). Dip nets were not used to harvest chum salmon; rather, beach seines were used to harvest 26 chums. On the other hand, beach seines were not used to harvest coho salmon; rather, dip nets were used to harvest 56 coho. Both beach seines and dip nets were used to harvest Chinook salmon: 15 and 11 Chinook respectively (Table 7).

For sport fishing methods for all salmon species, rod and reel and trolling almost evenly split the fishery with 1,351 salmon caught with rod and reel and 1,301 fish caught while trolling. By species, the highest rod and reel catch was sockeye salmon (941) and the highest trolling catch was Chinook salmon (774) (Table 8).

Overall, more salmon were harvested with subsistence gear, and the harvest consisted primarily of sockeye salmon. Among other species, however, there was a significantly high number harvested with sport methods. For example, 954 coho salmon were harvested with sport methods, and only 56 were harvested with subsistence methods. Chinook salmon were also particularly notable: 1,291 fish were harvested with sport methods, and 26 with subsistence gear. This represented a household average of 49 pounds of Chinook salmon harvested with sport methods (Table 9).

Table 10 shows the months in which Sitka residents fished for each species. The highest effort in 2005 was in July for sockeye salmon, in which 79% of the households surveyed reported fishing for sockeye salmon. Chinook was the only species that showed at least an attempted harvest in every month, and chum salmon represented the species that was targeted the fewest months (3). The bulk of the harvest efforts occurred in the months between May and August, while the months of November through February showed efforts only for Chinook and coho.

Table 4.—Expanded troll, rod and reel salmon harvests reported on household surveys, Sitka 2005.

	Troll			Rod and reel			Missing/unknown			All sport methods			All methods		
	Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest		
	Harvest	Per species	Per site	Harvest	Per species	Per site	Harvest	Per species	Per site	Harvest	Per species	Per site	Harvest	Per species	Per site
Coho salmon															
Ford Arm	16.5	1.6	100	0	0	0	0	0	0	16.5	1.6	100	16.5	1.6	100
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hanus Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hoktaheen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fish Camp—Klag Bay	33	3.3	100	0	0	0	0	0	0	33	3.3	100	33	3.3	100
Leo Anchorage	16.5	1.6	52.2	15.1	1.5	47.8	0	0	0	31.6	3.1	100	31.6	3.1	100
Nakwasina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Necker Bay	1.4	0.1	100	0	0	0	0	0	0	1.4	0.1	100	1.4	0	100
Redfish Bay	26.1	2.6	55.9	20.6	2	44.1	0	0	0	46.7	4.6	100	46.7	4.6	100
Redoubt Bay	0	0	0	0	0	0	0	0	0	0	0	0	56.3	5.6	100
Silver Bay	67.3	6.7	57	50.8	5	43	0	0	0	118.2	11.7	100	118.2	11.7	100
Sitka area streams	116.8	11.6	42.1	160.9	15.9	57.9	0	0	0	277.7	27.5	100	277.7	27.5	100
Sitkoh Lake Creek	6.9	0.7	100	0	0	0	0	0	0	6.9	0.7	100	6.9	0.7	100
Situk River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small Arm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Whale Bay															
Other	195.1	19.3	50.9	138.9	13.8	36.2	49.5	4.9	12.9	383.6	38	100	383.6	38	100
Missing	5.5	0.5	14.2	16.6	1.6	42.9	16.6	1.6	42.9	38.6	3.8	100	38.6	3.8	100
All locations	485.1	48	48	402.9	39.9	39.9	66	6.5	6.5	954.1	94.4	94.4	1,010.40	100	100

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Table 4.–Page 2 of 5.

	Troll			Rod and reel			Missing/unknown			All sport methods			All methods		
	Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest		
	Harvest	Per species	Per site	Harvest	Per species	Per site	Harvest	Per species	Per site	Harvest	Per species	Per site	Harvest	Per species	Per site
Chum salmon															
Ford Arm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hanus Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hoktaheen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fish Camp–Klag Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leo Anchorage	6.9	15.2	100	0	0	0	0	0	0	6.9	15.1	100	6.9	15.2	100
Nakwasina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Necker Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redfish Bay	0	0	0	0	0	0	0	0	0	0	0	0	20.6	45.4	100
Redoubt Bay	0	0	0	4.1	9.1	42.9	0	0	0	4.1	9.1	42.9	9.6	21.2	100
Silver Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sitka area streams	8.3	18.2	1	0	0	0	0	0	0	8.3	18.2	100	8.3	18.2	100
Sitkoh Lake Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Situk River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small Arm Whale Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All locations	15.1	33.3	33.3	4.1	9.1	9.1	0	0	0	19.2	42.4	42.4	45.3	100	100

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Table 4.–Page 3 of 5.

	Troll			Rod and reel			Missing/unknown			All sport methods			All methods		
	Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest		
	Harvest	Per species	Per site	Harvest	Per species	Per site	Harvest	Per species	Per site	Harvest	Per species	Per site	Harvest	Per species	Per site
Chinook salmon															
Ford Arm	0	0	0	16.5	1.3	60	0	0	0	16.5	1.3	60	27.5	2.1	100
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hanus Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hoktaheen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fish Camp–Klag Bay	27.5	2.1	100	0	0	0	0	0	0	27.5	2.1	100	27.5	2.1	100
Leo Anchorage	0	0	0	16.5	1.3	100	0	0	0	16.5	1.3	100	16.5	1.3	100
Nakwasina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Necker Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redfish Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redoubt Bay	16.5	1.3	100	0	0	0	0	0	0	16.5	1.3	100	16.5	1.3	100
Silver Bay	75.6	5.7	44.9	92.6	7	55.1	0	0	0	168.2	12.8	100	168.2	12.8	100
Sitka area streams	261.1	19.8	73	96.7	7.3	27	0	0	0	357.8	27.2	100	357.8	27.2	100
Sitkoh Lake Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Situk River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small Arm Whale Bay	0	0	0	16.5	1.2	100	0	0	0	16.5	1.3	100	16	1.2	100
Other	325.7	24.7	53.8	264.9	20.1	43.7	0	0	0	590.6	44.8	97.5	605.7	46	100
Missing	67.9	5.2	84	12.9	1	16	0	0	0	80.8	6.1	100	80.8	6.1	100
All locations	774.2	58.8	58.8	516.6	39.2	39.2	0	0	0	1,290.80	98	98	1,316.90	100	100

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Table 4.–Page 4 of 5.

	Troll			Rod and reel			Missing/unknown			All sport methods			All methods		
	Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest		
	Harvest	Per species	Per site	Harvest	Per species	Per site	Harvest	Per species	Per site	Harvest	Per species	Per site	Harvest	Per species	Per site
		Harvest	species		site	Harvest		species	site		Harvest	species		site	Harvest
Pink salmon															
Ford Arm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hanus Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hoktaheen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fish Camp–Klag Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leo Anchorage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nakwasina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Necker Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redfish Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redoubt Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Silver Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sitka area streams	0	0	0	0	0	0	13.7	71.4	100	13.7	71.4	100	13.7	71.4	100
Sitkoh Lake Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Situk River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small Arm Whale Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	5.5	28.6	100	0	0	0	0	0	0	5.5	28.6	100	5.5	28.6	100
Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All locations	5.5	28.6	28.6	0	0	0	13.7	71.4	71.4	19.2	100	100	19.2	100	100

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Table 4.–Page 5 of 5.

	Troll			Rod and reel			Missing/unknown			All sport methods			All methods		
	Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest		
	Harvest	Per species	Per site	Harvest	Per species	Per site	Harvest	Per species	Per site	Harvest	Per species	Per site	Harvest	Per species	Per site
Sockeye salmon															
Ford Arm	0	0	0	0	0	0	0	0	0	0	0	0	257.5	1.7	100
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hanus Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hoktaheen	0	0	0	0	0	0	0	0	0	0	0	0	124.2	0.8	100
Fish Camp–Klag Bay	0	0	0	90.7	0.6	3	13.7	>0.1	1	104.4	0.7	3.5	3,000.90	20.3	100
Leo Anchorage	0	0	0	15.1	0.1	2.1	0	0	0	15.1	0.1	2.1	733	5	100
Nakwasina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Necker Bay	0	0	0	0	0	0	343.6	2.3	10	343.6	2.3	10.1	3,414.50	23.1	100
Redfish Bay	0	0	0	41.2	0.3	47.6	0	0	0	41.2	0.3	47.6	86.6	0.6	100
Redoubt Bay	0	0	0	737.9	5	11.3	48.1	0.3	1	786	5.3	12.1	6521	44.1	100
Silver Bay	0	0	0	56.3	0.4	10.1	0	0	0	56.3	0.4	10.1	556.5	3.8	100
Sitka area streams	20.6	0.1	100	0	0	0	0	0	0	20.6	0.1	100	20.6	0.1	100
Sitkoh Lake Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Situk River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small Arm Whale Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Missing	0	0	0	0	0	0	0	0	0	0	0	0	62.4	0.4	100
All locations	20.6	0.1	0.1	941.3	6.4	6.4	405.4	2.7	3	1,367.30	9.3	9.3	14,777.20	100	100

Table 5.—Expanded subsistence method salmon harvests reported on household surveys, Sitka 2005.

	Purse seine			Beach seine			Drift gillnet			Dip net			All subsistence/personal use methods			All methods		
	Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest		
	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site
Coho salmon																		
Ford Arm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	2	100
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hanus Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hoktaheen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fish Camp– Klag Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	3.3	100
Leo Anchorage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	3.3	100
Nakwasina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Necker Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	100
Redfish Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47	4.6	100
Redoubt Bay	0	0	0	0	0	0	0	0	0	56.3	5.6	100	56.3	5.6	100	56.3	5.6	100
Silver Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	118	11.7	100
Sitka area streams	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	278	27.5	100
Sitkoh Lake Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0.7	100
Situk River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small Arm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Whale Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	384	38	100
Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39	3.8	100
All locations	0	0	0	0	0	0	0	0	0	56.3	5.6	5.6	56.3	5.6	5.6	1,010.40	100	100

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Table 5.–Page 2 of 5.

	Purse seine			Beach seine			Drift gillnet			Dip net			All subsistence/personal use methods			All methods		
	Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest		
	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site
Chum salmon																		
Ford Arm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hanus Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hoktaheen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fish Camp– Klag Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leo Anchorage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	15.1	100
Nakwasina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Necker Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redfish Bay	0	0	0	20.6	45.4	100	0	0	0	0	0	0	20.6	45.4	100	20.6	45.4	100
Redoubt Bay	0	0	0	5.5	12.1	57.1	0	0	0	0	0	0	5.5	12.1	57.1	9.6	21.2	100
Silver Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sitka area streams	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	18	100
Sitkoh Lake Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Situk River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small Arm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Whale Bay																		
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All locations	0	0	0	26.1	57.6	57.6	0	0	0	0	0	0	26.1	57.6	57.6	45.3	100	100

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Table 5.–Page 3 of 5.

	Purse seine			Beach seine			Drift gillnet			Dip net			All subsistence/personal use methods			All methods		
	Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest					
	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site
	Harvest	species	site	Harvest	species	site	Harvest	species	site									
Chinook salmon																		
Ford Arm	0	0	0	0	0	0	0	0	0	11	0.8	40	11	0.8	40	27.5	2.1	100
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hanus Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hoktaheen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fish Camp– Klag Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	2	100
Leo Anchorage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	1	100
Nakwasina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Necker Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redfish Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redoubt Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	1.3	100
Silver Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	168	12.8	100
Sitka area streams	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	358	27.1	100
Sitkoh Lake Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Situk River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small Arm Whale Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	1.3	100
Other	0	0	0	15.1	1.1	2.5	0	0	0	0	0	0	15.1	1.1	2.5	605.7	46	100
Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	81	6.1	100
All locations	0	0	0	0	0	0	0	0	0	11	0.8	0.8	26.1	2	2	1,316.9	100	100

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Table 5.–Page 4 of 5.

	Purse seine			Beach seine			Drift gillnet			Dip net			All subsistence/personal use methods			All methods		
	Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest		
	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site
	Harvest	species	site	Harvest	species	site	Harvest	species	site									
Pink salmon																		
Ford Arm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hanus Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hoktaheen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fish Camp- Klag Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leo Anchorage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nakwasina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Necker Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redfish Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redoubt Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Silver Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sitka area streams	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	71.4	100
Sitkoh Lake Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Situk River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small Arm Whale Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	28.6	100
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,316.90	100	100
All locations	0	0	0	0	0	0	19	100	100									

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Table 5.–Page 5 of 5.

	Purse seine			Beach seine			Drift gillnet			Dip net			All subsistence/personal use methods			All methods		
	Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest			Percent of total harvest		
	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site	Per Harvest	Per species	Per site
	Harvest	species	site	Harvest	species	site	Harvest	species	site	Harvest	species	site	Harvest	species	site	Harvest	species	site
Sockeye salmon																		
Ford Arm	0	0	0	56.3	0.4	21.9	0	0	0	201.1	1.4	78.1	257.5	1.7	100	257.5	1.7	100
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hanus Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hoktaheen	0	0	0	0	0	0	0	0	0	124.2	0.8	100	124.2	0.8	100	124.2	0.8	100
Fish Camp– Klag Bay	0	0	0	1,510.20	10.2	50.3	0	0	0	1,386.20	9.4	46.2	2,896.40	19.6	96.5	3,000.90	20.3	100
Leo Anchorage	0	0	0	621.1	4.2	84.7	0	0	0	96.7	0.7	13.2	717.8	4.9	97.9	733	5	100
Nakwasina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Necker Bay	68.7	0.5	2	2,242.30	15.2	0.7	137.4	0.9	4	622.5	4.2	18.2	3,071	20.8	89.9	3,414.50	23.1	100
Redfish Bay	23.4	0.2	27	0	0	0	0	0	0	22	0.1	25.4	45.3	0%	52.4	86.6	1	100
Redoubt Bay	24.7	0.2	0.4	345.4	2.3	5.3	0	0	0	5,364.80	36.3	82.3	5,735	38.8	87.9	6,521	44.1	100
Silver Bay	0	0	0	269.3	1.8	48.4	0	0	0	230.9	1.6	41.5	500.2	3.4	89.9	556.5	3.8	100
Sitka area streams	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	100
Sitkoh Lake Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Situk River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small Arm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Whale Bay																		
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Missing	0	0	0	62.4	0.4	100	0	0	0	0	0	0	62.4	0.4	100	62.4	0.4	100
All locations	116.8	0.8	0.8	5,107.20	34.6	34.6	137.4	0.9	0.9	8,048.40	54.5	54.5	13,409.80	90.7	90.7	14,777.20	100	100

Table 6.—Expanded total salmon harvests reported on surveys, Sitka 2005.

	All “sport” methods			All subsistence/personal use methods			All methods		
	Percent of total harvest			Percent of total harvest			Percent of total harvest		
	Harvest	Per species	Per site	Harvest	Per species	Per site	Harvest	Per species	Per site
Coho salmon									
Ford Arm	16.5	1.6	100	0	0	0	16	2	100
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0
Hanus Bay	0	0	0	0	0	0	0	0	0
Hoktaheen	0	0	0	0	0	0	0	0	0
Fish Camp–Klag Bay	33	3.3	100	0	0	0	33	3.3	100
Leo Anchorage	31.6	3.1	100	0	0	0	31.6	3.3	100
Nakwasina	0	0	0	0	0	0	0	0	0
Necker Bay	1.4	0.1	100	0	0	0	1	0	100
Redfish Bay	46.7	4.6	100	0	0	0	47	4.6	100
Redoubt Bay	0	0	0	56.3	5.6	100	56.3	5.6	100
Silver Bay	118.2	11.7	100	0	0	0	118	11.7	100
Sitka area streams	277.7	27.5	100	0	0	0	278	27.5	100
Sitkoh Lake Creek	6.9	0.7	100	0	0	0	7	0.7	100
Situk River	0	0	0	0	0	0	0	0	0
Small Arm Whale Bay	0	0	0	0	0	0	0	0	0
Other	383.6	38	100	0	0	0	384	38	100
Missing	38.6	3.8	100	0	0	0	39	3.8	100
All locations	954.1	94.4	94.4	56.3	5.6	5.6	1,010.4	100	100
Chum salmon									
Ford Arm	0	0	0	0	0	0	0	0	0
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0
Hanus Bay	0	0	0	0	0	0	0	0	0
Hoktaheen	0	0	0	0	0	0	0	0	0
Fish Camp–Klag Bay	0	0	0	0	0	0	0	0	0
Leo Anchorage	6.9	15.1	100	0	0	0	7	15.1	100
Nakwasina	0	0	0	0	0	0	0	0	0
Necker Bay	0	0	0	0	0	0	0	0	0
Redfish Bay	0	0	0	20.6	45.4	100	20.6	45.4	100
Redoubt Bay	4.1	9.1	42.9	5.5	12.1	57.1	9.6	21.2	100
Silver Bay	0	0	0	0	0	0	0	0	0
Sitka Area streams	8.3	18.2	100	0	0	0	8	18	100
Sitkoh Lake Creek	0	0	0	0	0	0	0	0	0
Situk River	0	0	0	0	0	0	0	0	0

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Table 6.–Page 2 of 3.

	All “sport” methods			All subsistence/personal use methods			All methods		
	Percent of total harvest			Percent of total harvest			Percent of total harvest		
	Harvest	Per species	Per site	Harvest	Per species	Per site	Harvest	Per species	Per site
Chum salmon, continued									
Small Arm Whale Bay	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0
Missing	0	0	0	0	0	0	0	0	0
All locations	19.2	42.4	42.4	26.1	57.6	57.6	45.3	100	100
Chinook salmon									
Ford Arm	16.5	1.3	60	11	0.8	40	27.5	2.1	100
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0
Hanus Bay	0	0	0	0	0	0	0	0	0
Hoktaheen	0	0	0	0	0	0	0	0	0
Fish Camp–Klag Bay	27.5	2.1	100	0	0	0	27.5	2.1	100
Leo Anchorage	16.5	1.3	100	0	0	0	16.5	1.3	100
Nakwasina	0	0	0	0	0	0	0	0	0
Necker Bay	0	0	0	0	0	0	0	0	0
Redfish Bay	0	0	0	0	0	0	0	0	0
Redoubt Bay	16.5	1.3	100	0	0	0	16.5	1.3	100
Silver Bay	168.2	12.8	100	0	0	0	168.2	12.8	100
Sitka area streams	357.8	27.2	100	0	0	0	357.8	27.2	100
Sitkoh Lake Creek	0	0	0	0	0	0	0	0	0
Situk River	0	0	0	0	0	0	0	0	0
Small Arm Whale Bay	16.5	1.3	100	0	0	0	16	1.2	100
Other	590.6	44.8	97.5	15.1	1.1	2.5	605.7	46	100
Missing	80.8	6.1	100	0	0	0	80.8	6.1	100
All locations	1,290.80	98	98	26.1	2	2	1,316.9	100	100
Pink salmon									
Ford Arm	0	0	0	0	0	0	0	0	0
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0
Hanus Bay	0	0	0	0	0	0	0	0	0
Hoktaheen	0	0	0	0	0	0	0	0	0
Fish Camp–Klag Bay	0	0	0	0	0	0	0	0	0
Leo Anchorage	0	0	0	0	0	0	0	0	0
Nakwasina	0	0	0	0	0	0	0	0	0
Necker Bay	0	0	0	0	0	0	0	0	0
Redfish Bay	0	0	0	0	0	0	0	0	0

-continued-

Table 6.–Page 3 of 3.

	All “sport” methods			All subsistence/personal use methods			All methods		
	Percent of total harvest			Percent of total harvest			Percent of total harvest		
	Harvest	Per species	Per site	Harvest	Per species	Per site	Harvest	Per species	Per site
Pink salmon, continued									
Redoubt Bay	0	0	0	0	0	0	0	0	0
Silver Bay	0	0	0	0	0	0	0	0	0
Sitka area streams	0	0	0	0	0	0	13.7	71.4	100
Sitkoh Lake Creek	0	0	0	0	0	0	0	0	0
Situk River	0	0	0	0	0	0	0	0	0
Small Arm Whale Bay	0	0	0	0	0	0	0	0	0
Other	5.5	28.6	100	0	0	0	0	0	0
Missing	0	0	0	0	0	0	0	0	0
All locations	5.5	28.6	28.6	0	0	0	13.7	71.4	71.4
Sockeye salmon									
Ford Arm	0	0	0	0	0	0	0	0	0
Falls Creek/ Baranof Island	0	0	0	0	0	0	0	0	0
Hanus Bay	0	0	0	0	0	0	0	0	0
Hoktaheen	0	0	0	0	0	0	0	0	0
Fish Camp–Klag Bay	0	0	0	0	0	0	0	0	0
Leo Anchorage	0	0	0	0	0	0	0	0	0
Nakwasina	0	0	0	0	0	0	0	0	0
Necker Bay	0	0	0	0	0	0	0	0	0
Redfish Bay	0	0	0	0	0	0	0	0	0
Redoubt Bay	0	0	0	0	0	0	0	0	0
Silver Bay	0	0	0	0	0	0	0	0	0
Sitka area streams	13.7	71.4	100	0	0	0	13.7	71.4	100
Sitkoh Lake Creek	0	0	0	0	0	0	0	0	0
Situk River	0	0	0	0	0	0	0	0	0
Small Arm Whale Bay	0	0	0	0	0	0	0	0	0
Other	5.5	28.6	100	0	0	0	5.5	28.6	100
Missing	0	0	0	0	0	0	0	0	0
All locations	19.2	100	100	0	0	0	19.2	100	100

Table 7.—Salmon harvests by subsistence gear type, Sitka 2005.

Species	Unit	All subsistence/personal use											
		Purse seine		Beach seine		Drift gillnet		Dip net		methods		Any method	
		Total	HH Mean	Total	HH Mean	Total	HH Mean	Total	HH Mean	Total	HH Mean	Total	HH Mean
Chum salmon	ea.	0	0	26.1	0.1	0	0	0	0	Total	0.1	45.4	0.1
	lb	0	0	181.2	0.6	0	0	0	0	181.2	0.6	314.8	1.0
Coho salmon	ea.	0	0	0	0	0	0	56.3	0.2	56.3	0.2	1,010.4	3.3
	lb	0	0	0	0	0	0	299.2	1.0	299.2	1.0	5,365.2	17.3
Chinook salmon	ea.	0	0	15.2	0.1	0	0	11.0	0	26.2	0.1	1317.0	4.2
	lb	0	0	178.3	0.6	0	0	128.9	0.4	307.2	1.0	15,446.8	49.8
Pink salmon	ea.	0	0	0	0	0	0	0	0	0	0	19.2	0.1
	lb	0	0	0	0	0	0	0	0	0	0	47.8	0.2
Sockeye salmon	ea.	116.8	0.4	5107.2	16.5	137.4	0.4	8048.4	26.0	13,409.9	43.3	14777.2	47.7
	lb	521.2	1.7	22,789.3	73.5	613.2	2.0	35,913.7	115.9	59,837.4	193.0	65,938.7	212.7
Unknown salmon	ea.	0	0	0	0	0	0	0	0	0	0	55.0	0.2
	lb	0	0	0	0	0	0	0	0	0	0	340.1	1.1
All salmon	ea.	116.8	0.4	5,148.4	16.6	137.4	0.4	8,115.8	26.2	13,518.4	43.6	16,170.5	52.2
	lb	631.7	2.0	27,843.7	89.8	743.2	2.4	43,891.9	141.6	73,110.5	235.8	87,453.4	282.1

Table 8.—Salmon harvest by rod and reel, troll, and other gear types, Sitka 2005.

Species	Harvest Unit	All sport/other methods									
		Rod and reel		Troll		Other		methods		Any method	
		Total	HH Mean	Total	HH Mean	Total	HH Mean	Total	HH Mean	Total	HH Mean
Chum salmon	ea.	4.1	>0.1	15.1	0.1	0	0	19.2	0.1	45.4	0.1
	lb	28.6	0.1	104.9	0.3	0	0	133.5	0.4	314.8	1.0
Coho salmon	ea.	402.9	1.3	485.1	1.6	66.0	0.2	954.1	3.1	1010.4	3.3
	lb	2,139.6	6.9	2,575.8	8.3	350.7	1.1	5,066.1	16.3	5365.2	17.3
Chinook salmon	ea.	516.6	1.7	774.2	2.5	0.0	0	1,290.8	4.2	1317.0	4.2
	lb	6,059.1	19.5	9,080.6	29.3	0.0	0	15,139.7	48.8	15,446.8	49.8
Pink salmon	ea.	0	0	5.5	0	13.7	0	19.2	0.1	19.2	0.1
	lb	0	0	13.7	0	34.1	0.1	47.8	0.2	47.8	0.2
Sockeye salmon	ea.	941.3	3.0	20.6	0.1	405.4	1.3	1,367.3	4.4	14777.2	47.7
	lb	4,200.4	13.5	92.0	0.3	1,808.9	5.8	6,101.3	19.7	65,938.7	212.7
Unknown salmon	ea.	55.0	0.2	0	0	0	0	55.0	0.2	55.0	0.2
	lb	340.1	1.1	0	0	0	0	340.1	1.1	340.1	1.1
All salmon	ea.	1,351.0	4.4	1,300.5	4.2	0.5	155.4	2,652.1	8.6	16,170.5	52.2
	lb	7,306.7	23.6	7,033.5	22.7	2.7	0	14,342.9	46.3	87,453.4	282.1

Table 9.–Salmon harvest by gear totals, Sitka 2005.

Species	Harvest unit	All subsistence/personal use methods		All sport/other methods		Any method	
		Total	HH Mean	Total	HH Mean	Total	HH Mean
Chum salmon	ea.	26.1	0.1	19.2	0.1	45.4	0.1
	lb	181.2	0.6	133.5	0.4	314.8	1.0
Coho salmon	ea.	56.3	0.2	954.1	3.1	1,010.4	3.3
	lb	299.2	1.0	5066.1	16.3	5,365.2	17.3
Chinook salmon	ea.	26.2	0.1	1290.8	4.2	1,317.0	4.2
	lb	307.2	1.0	15,139.7	48.8	15,446.8	49.8
Pink salmon	ea.	0	0	19.2	0.1	19.2	0.1
	lb	0	0	47.8	0.2	47.8	0.2
Sockeye salmon	ea.	13,409.9	43.3	1,367.3	4.4	14,777.2	47.7
	lb	59,837.4	193.0	6,101.3	19.7	65,938.7	212.7
Unknown salmon	ea.	0	0	55.0	0.2	55.0	0.2
	lb	0	0	340.1	1.1	340.1	1.1
All salmon	ea.	13,518.4	43.6	2,652.1	8.6	16,170.5	52.2
	lb	73,110.5	235.8	14,342.9	46.3	87,453.4	282.1

Table 10.–Species by months fished by Sitka residents, 2005.

Resource	Percentage of households ^a						
	Jan	Feb	March	April	May	June	July
Chum salmon	0	0	0	0	0	0	0
Coho salmon	0	0	0	1.0	13.0	19.0	22.0
Chinook salmon	8.0	8.0	7.0	16.0	44.0	45.0	21.0
Pink salmon	0	0	0	0	1.0	1.0	5.0
Sockeye salmon	0	0	0	0	0	15.0	79.0
Rainbow/cutthroat trout	0	0	0	2.0	1	0	1.0
Dolly Varden	0	0	1.0	2.0	1	0	0
Steelhead trout	0	0	1.0	3	1	0	0

Resource							No month identified
	Aug	Sep	Oct	Nov	Dec	Any month	
Chum salmon	15.0	10.0	1.0	0	0	21.0	79.0
Coho salmon	28.0	16.0	4.0	1.0	0	61.0	39.0
Chinook salmon	11.0	6.0	5.0	5.0	6.0	71.6	28.4
Pink salmon	15.0	10.0	0	0	0	19.4	80.7
Sockeye salmon	44.0	2.0	0	0	0	87.1	12.9
Rainbow/cutthroat trout	1.0	3.0	1.0	0	0	5.8	94.2
Dolly Varden	1.0	2.0	1.0	0	0	6.5	93.5
Steelhead trout	1.0	2.0	1.0	0	0	7.4	92.6

a. Households may identify more than one month for a resource, or not identify any month.

COMPARISON OF PERMIT REPORTING AND HOUSEHOLD SURVEYS AS HARVEST ESTIMATES

Harvest estimates derived from permit reporting and the household surveys were dissimilar (Table 11). For all species of salmon, the household survey results produced an estimate of 16,171 salmon, while the permits produced an estimate of 6,597 salmon harvested for the 2005 fishing season. The permit estimate was 41% of the survey estimate: less than half. When the rod and reel or other “sport” gear was subtracted from the total household survey harvest estimates, since sport harvests were not recorded on permits, the permit estimates still represented half as many fish (49%).

Table 11.—Harvest estimates by permit reporting and household surveys, Sitka 2005.

Species	Total subsistence/ personal use methods, surveys	Total sport/other methods, surveys	Percentage sport/other methods percentage of total, surveys	Total all methods, surveys	Total subsistence/ personal use methods, permits	Percentage permit est. as percentage of survey est.(total harvest)	Percentage permit est. as percentage of survey est.(sub gear harvest)
Chum salmon	26	19	42%	45	13	29%	50%
Coho salmon	56	954	94%	1,010	62	6%	110%
Chinook salmon	26	1,291	98%	1,317	4	0%	15%
Pink salmon	0	19	100%	19	164	854%	0%
Sockeye salmon	13,410	1,367	9%	14,777	6,354	43%	47%
Unknown salmon	0	55	100%	55	0	0%	0%
All salmon	13,518	2,652	16%	16,171	6,597	41%	49%

When the estimates at the species level were evaluated, some patterns emerged. The largest difference in the 2 methods occurred in the numbers of Chinook salmon harvested. The household survey documented 26 Chinook harvested with subsistence methods, and data from the permits documented 4. The survey asked about fish caught with methods considered to be “sport,” while the permit did not, and recorded an additional 1,291 Chinook salmon. A similar pattern emerged for harvests of coho salmon. While the permit and survey data generated similar estimates of the numbers of coho harvested with subsistence gear, at 62 and 56 respectively, an additional 954 coho were estimated to have been harvested with “sport” gear according to the survey (Table 11). Therefore, the estimates generated from permit data compared to the estimates generated from surveys appear very low, at less than 1% for Chinook and 4% for coho.

The ratios were reversed for pink salmon, as none were reported during the survey as harvested with subsistence methods, while 164 were reported harvested on the permits. There were low harvests of chum in both permit and survey datasets. Sockeye salmon harvests using subsistence gear were much greater than the harvests of other salmon species, representing 99% of that reported on the surveys, and 96% of that reported on permits. Sockeye salmon reported as caught with sport gear added another 1,652 fish (9%) to the survey estimate. The permit estimate for subsistence gear was 43% of that estimated from surveys (Table 11).

The ratio of permit estimates to survey estimates, by species, was further refined by grouping households together by harvest levels. Households reporting on both permits and the surveys were matched, which produced a set of 235 households.⁷ The resulting ratios are presented in Table 12 for chum, coho, pink, and Chinook salmon, and at more detail for sockeye salmon in Table 13. The differences in percentage points (permit percentage subtracted from the survey percentage) between the permit and survey estimates are presented in Figures 2 and 3. Because of the greater number of harvested sockeye salmon,

7. Four households had 2 permits.

more groupings could be created, and these results are presented separately in Figure 3. Table 12 and Figure 2 illustrate the observation made above that Chinook salmon, in particular, were underreported on permits due to the absence of “sport” gear as a method. Generally, zero Chinook salmon harvests were reported 35% more often on permits than on surveys; furthermore, Chinook harvests were reported 18% less often in the 1–10 fish category; 15% less often in the 11–20 fish category, and 5% less often in the greater than 20 fish category. The trend was similar for coho salmon, for presumably similar reasons, in which zero fish were reported 19% more often on the permit than on the survey. Similarly, coho were reported more often on the survey in the 1–10 (8%), 11–20 (7%) and more than 20 (5%) categories. Chum salmon were reported similarly across all categories. Pink salmon harvest ratios were the reverse of Chinook and coho, in that they were reported more often as a zero harvest (10%) on the survey than on the permit. Pink salmon harvests were reported more often on the permits. Sockeye salmon harvests, shown in Table 13 and Figure 3, were reported 12% more often on the permit as zero harvested, and also more often in the permit within the range of 1–10 fish. The survey picked up more harvests in the 11–25 fish (5%), and 26–50 fish (11%) categories. There was only a slight difference in the 51–100 fish category (1%), and 5% for harvests over 100 fish.

Table 12.—Comparison of estimated households reporting chum, pink, coho, or Chinook salmon harvests, permits as a percentage of survey estimates, Sitka 2005.

	0 fish		1–10 fish		11– 20 fish		> 20 fish	
	HH	Percentage of HH	HH	Percentage of HH	HH	Percentage of HH	HH	Percentage of HH
Chum salmon								
Permit	231	96.6	8	3.3	0	0	0	0
Survey	229	97.4	5	2.1	1	0.4	0	0
± percentage		0.8		-1.2		0.4		0
Pink salmon								
Permit	213	89.1	24	10	2	0.8	0	0
Survey	233	99.1	2	0.9	0	0	0	0
± percentage		10		-9.1		-0.8		0
Coho salmon								
Permit	232	97.1	5	2.1	2	0.8	0	0
Survey	183	77.9	23	9.8	18	7.7	11	4.7
± percentage		-19.2		7.7		6.9		4.7
Chinook salmon								
Permit	238	99.6	1	0.4	0	0	0	0
Survey	152	64.7	44	18.7	36	15.3	3	1.3
± percentage		-34.9		18.3		15.3		1.3

Note 235 matched survey/permit reporting households; 4 households had 2 permits.

Table 13.—Comparison of estimated households reporting sockeye salmon harvests, permits as a percentage of survey estimates, Sitka 2005.

	0 fish		1–10 fish		11–25 fish		26–50 fish		51–100 fish		> 100 fish	
	Number reporting harvest level	Percentage reporting harvest level	Number reporting harvest level	Percentage reporting harvest level	Number reporting harvest level	Percentage reporting harvest level	Number reporting harvest level	Percentage reporting harvest level	Number reporting harvest level	Percentage reporting harvest level	Number reporting harvest level	Percentage reporting harvest level
Permit	94	39.3	35	14.6	34	14.2	54	22.6	19	7.9	3	1.3
Survey	65	27.7	13	5.5	44	18.7	79	33.6	20	8.5	14	6.0
± percentage		-11.6		-9.1		4.5		11		0.6		4.7

Note 235 matched survey/permit reporting households; 4 households had 2 permits.

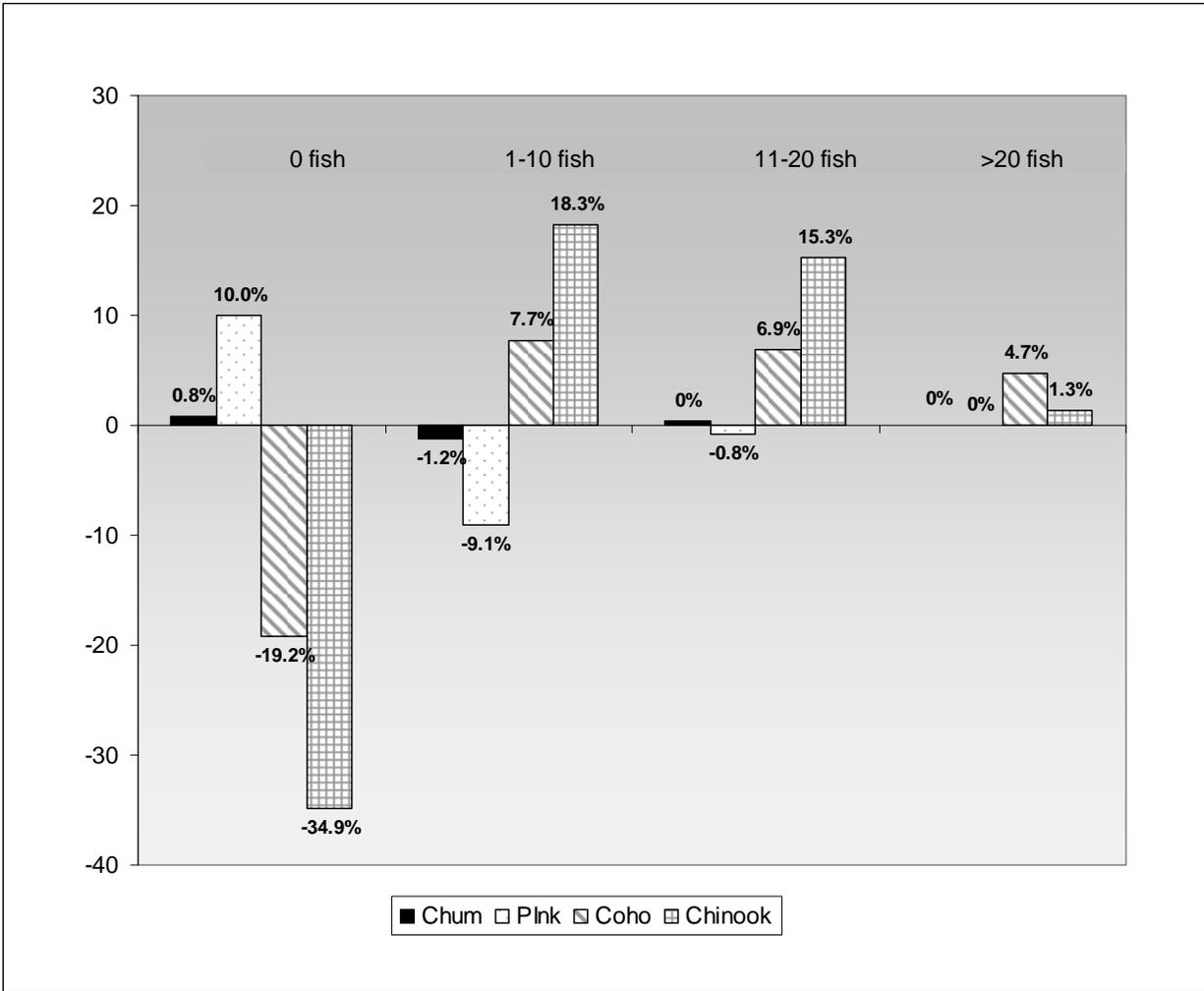


Figure 2.—Comparison of estimated households reporting chum, pink, coho, or Chinook salmon harvests, permits as a percentage of survey estimates, Sitka 2005.

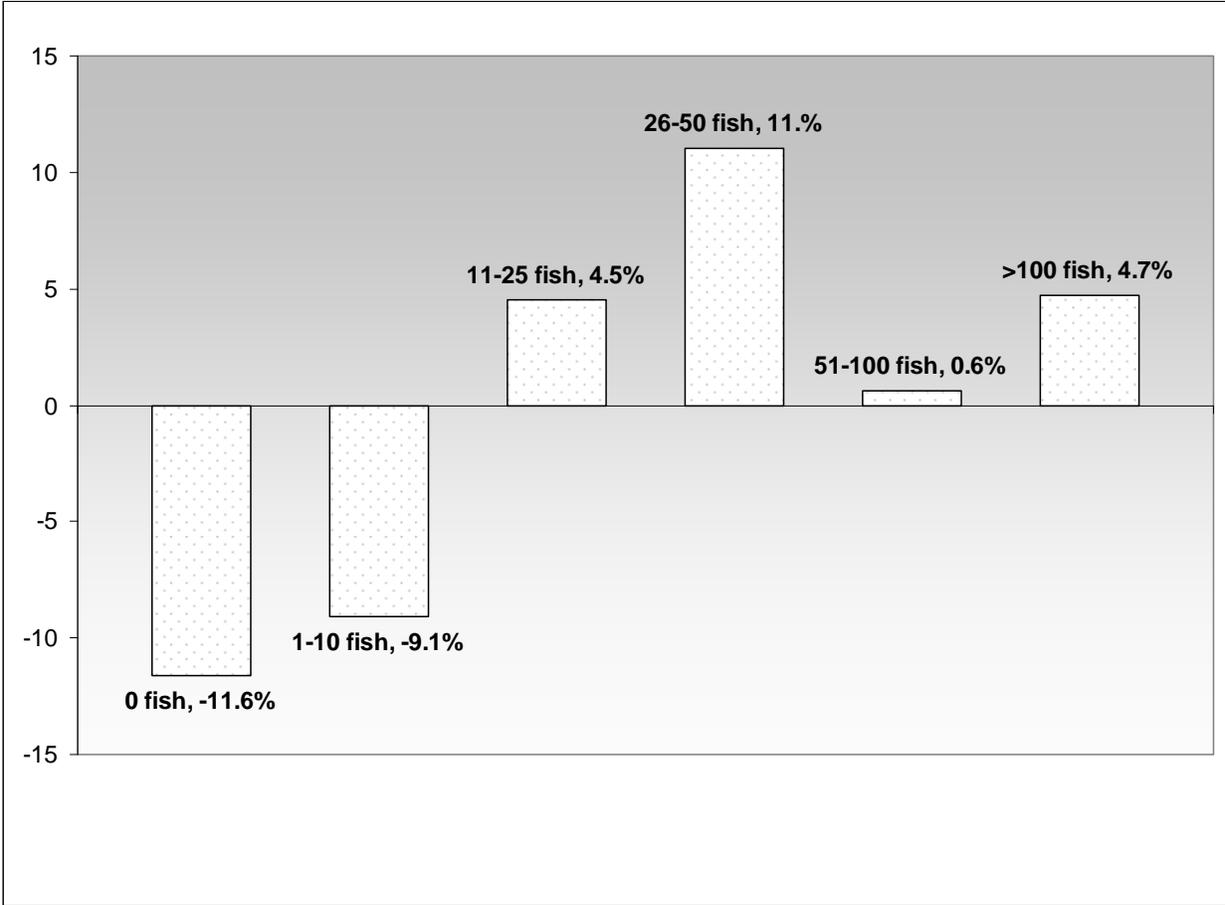


Figure 3.—Comparison of estimated households reporting sockeye salmon harvests, permits as a percentage of survey estimates, Sitka 2005.

A test was conducted to illuminate any potential differences between households that chose to participate in the survey and those that were not contacted or declined to participate (Tables 14 and 15; Figure 4). The same percentages were computed for harvests reported from households that did participate in the survey⁸.

The results showed that the permit harvest levels, compared to both households surveyed and those not surveyed, were very close. Except for sockeye salmon, surveyed and nonsurveyed household harvests were within 2% (Table 14). However, for sockeye salmon the surveyed households tended to be harvesting households. As demonstrated in Table 15 and Figure 4, 50% of the nonsurveyed households reported no sockeye harvests on permits, and 29% of those surveyed reported no sockeye harvest on their permit. The other groupings of harvests showed a similar trend, in higher permit harvests reported in the group that was also surveyed.

Table 14.–Frequency of chum, pink, coho, and Chinook salmon harvest levels reported on permits for surveyed and nonsurveyed households.

	0 fish		1–10 fish		11– 25 fish		> 25 fish	
	Number reporting harvest level	Percentage reporting harvest level	Number reporting harvest level	Percentage reporting harvest level	Number reporting harvest level	Percentage reporting harvest level	Number reporting harvest level	Percentage reporting harvest level
Chum salmon								
Surveyed	142	96.6	5	3.4	0	0	0	0
Nonsurveyed	87	96.7	3	3.3	0	0	0	0
Pink salmon								
Surveyed	130	88.4	15	10.2	1	0.7	1	0.7
Nonsurveyed	81	90.0	9	10.0	0	0	0	0
Coho salmon								
Surveyed	141	95.1	5	3.4	1	0.7	0	0
Nonsurveyed	88	97.8	1	1.1	1	1.1	0	0
Chinook salmon								
Surveyed	147	100	0	0	0	0	0	0
Nonsurveyed	89	98.9	1	1.1	0	0	0	0

8. This comparison was also a way to reveal bias among the household survey sample: if willingness or availability to complete the household survey was associated with a given harvest level reported on the same household's permit. The computations represent a sample-wide comparison, and do not include statistical variance (average difference) between households.

Table 15.—Frequency of sockeye salmon harvest levels reported on permits for surveyed and nonsurveyed households.

	0 fish		1–10 fish		11–25 fish		26–50 fish		51–75 fish		> 75 fish	
	Number reporting harvest level	Percentage reporting harvest level	Number reporting harvest level	Percentage reporting harvest level	Number reporting harvest level	Percentage reporting harvest level	Number reporting harvest level	Percentage reporting harvest level	Number reporting harvest level	Percentage reporting harvest level	Number reporting harvest level	Percentage reporting harvest level
Surveyed	42	28.6	27	18.4	26	17.7	34	23.1	13	8.8	5	3.4
Nonsurveyed	50	55.6	8	8.9	8	8.9	20	22.2	1	1.1	3	3.3

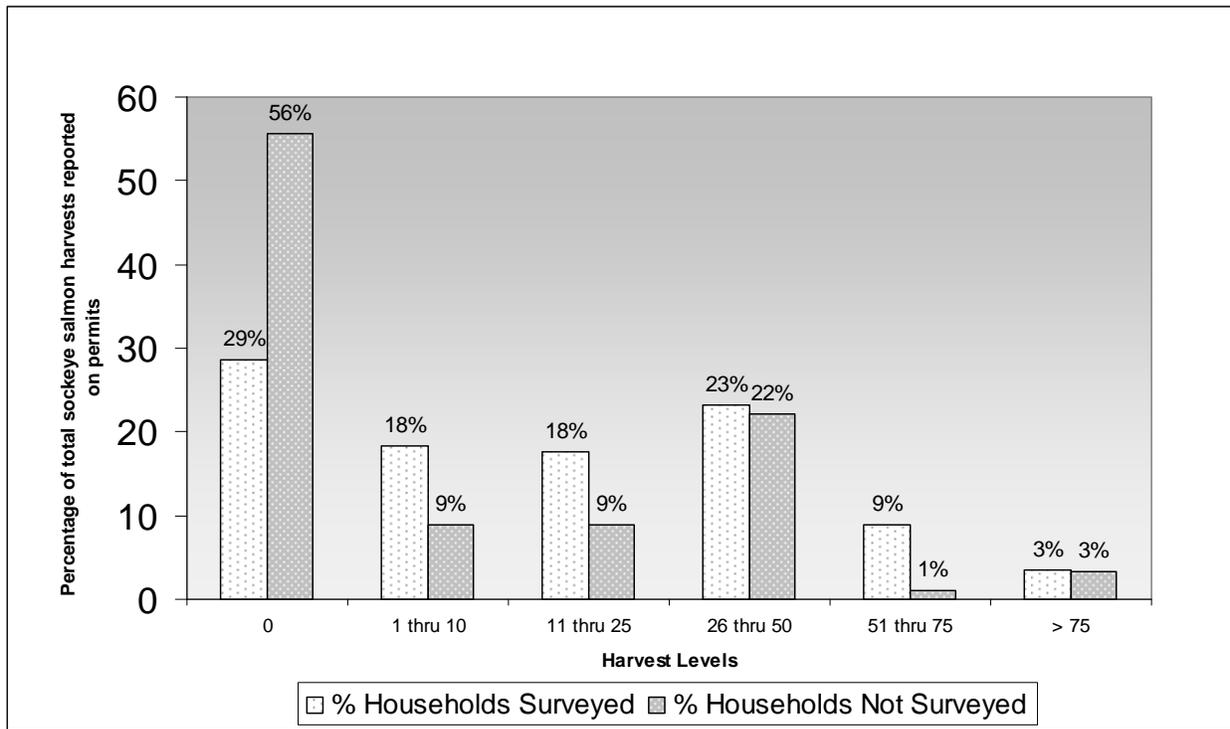


Figure 4.—Comparison of harvest levels for surveyed and nonsurveyed households, sockeye salmon.

Table 16 reports descriptive statistics, by species, for harvests reported on permits and the on the household surveys. Except for pink salmon, the average harvest was higher for the surveyed population, though those harvests included those made with rod and reel.

The standard error, a measure of variability of responses in harvest levels by species, was higher on the household surveys. This may be due to the limits allowed under sport and subsistence regulations: there were annual limits for fish caught with subsistence gear, but only daily limits for fish caught with sport gear. Therefore, there was no limit on the number of fish reported caught on rod and reel gear.

Confidence interval estimates, which included the calculation of standard error, also showed more variability in survey responses (Table 16 and Figure 5). There was little variance reflected in the harvests of sockeye salmon reported on permits. This could be because households tended to harvest the same numbers of sockeye salmon annually, or that they stopped harvesting when they reached the annual limit. Another possibility was that households recorded the maximum annual number allowed as a matter of convenience, as the general practice was to not record harvests immediately, and so harvesters may not have recalled the actual number when completing the harvest record on the permit. This also indicated that the permit data used to monitoring annual sockeye salmon harvests may be imprecise.

Table 16.—Descriptive statistic comparison of permit data and household survey data for salmon harvests, Sitka 2005.

Subsistence/personal use salmon permits			Household surveys		
Permits	Issued	277	Households	Defined	426
	Reports returned	275		Interviewed	310
Chinook salmon	Average	0.01	Chinook salmon	Average	3.03
	Standard error	0.01		Standard error	3.2
	Estimated total	4.02		Estimated total	1,317
	95% confidence interval (high)	4.52		95% confidence interval (high)	2,739.87
	(Low)	4		(Low)	1.37
Chum salmon	Average	0.05	Chum salmon	Average	0.11
	Standard error	0.16		Standard error	0.17
	Estimated total	13.09		Estimated total	45
	95% confidence interval (high)	13.83		95% confidence interval (high)	118.49
	(Low)	13		(Low)	1.37
Coho salmon	Average	0.23	Coho salmon	Average	2.37
	Standard error	0.08		Standard error	2.83
	Estimated total	62.45		Estimated total	1,010
	95% confidence interval (high)	66.32		95% confidence interval (high)	2,245.31
	(Low)	62		(Low)	1.37
Pink salmon	Average	0.59	Pink salmon	Average	0.05
	Standard error	0.18		Standard error	0.08
	Estimated total	164.1		Estimated total	19.2
	95% confidence interval (high)	166.69		95% confidence interval (high)	53.3
	(Low)	157		(Low)	5.5
Sockeye salmon	Average	22.94	Sockeye salmon	Average	34.7
	Standard error	2.29		Standard error	21.7
	Estimated total	6,354.59		Estimated total	14,777.20
	95% confidence interval (high)	6,485.88		95% confidence interval (high)	24,243.41
	(Low)	6,334.00		(Low)	5,310.92

Note The base number of permits represents those surveyed who also had permits in 2005.

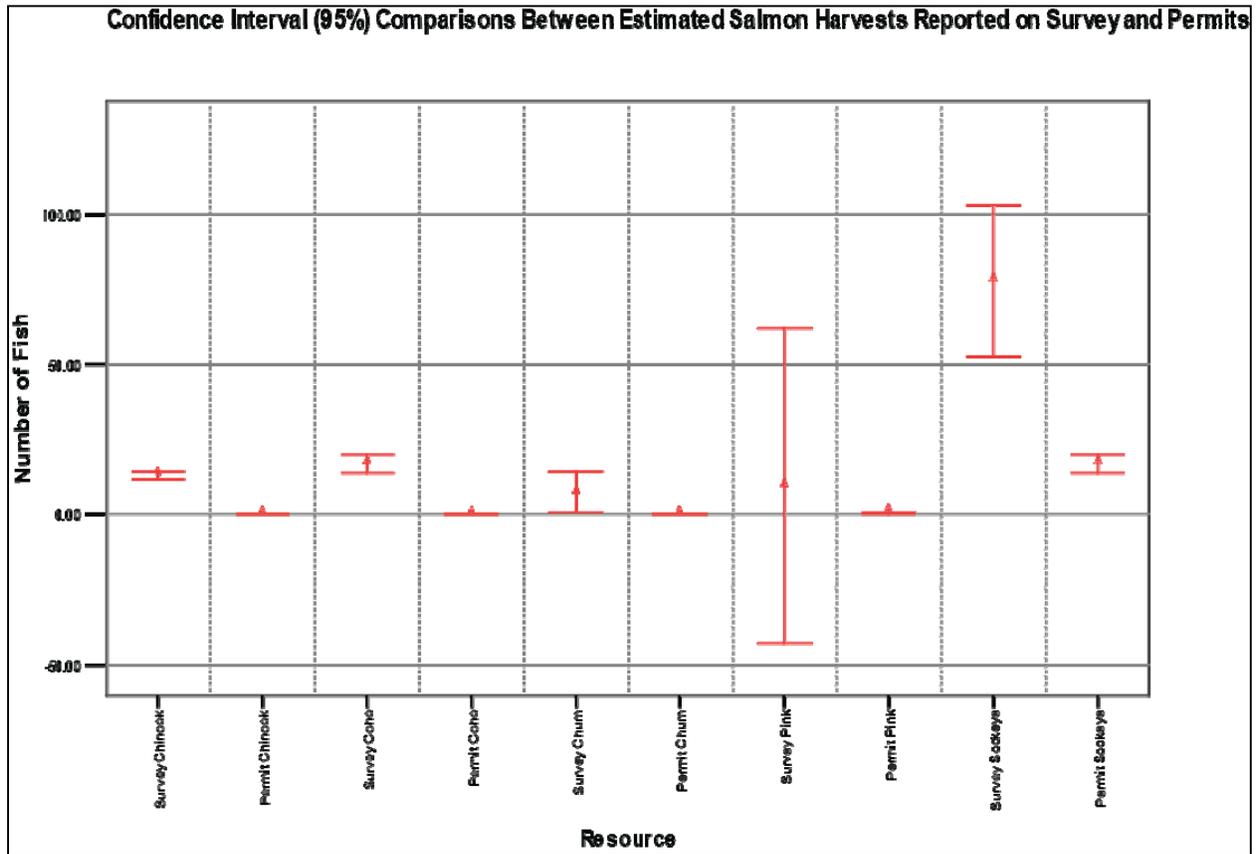


Figure 5.–Confidence interval comparisons for salmon between permit report and survey results, by species.

CONCLUSIONS

The high rate of returned subsistence/personal use permits by residents of Sitka indicates compliance with this aspect of the permitting process. The number of permits issued between 2000 and 2005 ranged from 519 to 778, and during this period the rate of returned permits ranged from 93.8% to 98.5%.

The study revealed a disparity between subsistence/personal use permit reporting and salmon harvests as reported on the household survey. The household survey information resulted in higher estimated harvest levels for all species except pink salmon harvested by subsistence methods. The largest difference between harvests reported on permits and those reported on household surveys was for Chinook and coho harvests. According to the household survey estimate, 1,317 Chinook were harvested in 2005. Those fish were primarily caught while trolling with hook and line, or fishing with a rod and reel (98%), which is not captured by the subsistence/personal use permits. For coho, 1,010 were caught, 94% of which were caught with rod and reel or other sport gear. In the Sitka area, both Chinook and coho salmon are primarily harvested by trolling with hook and line in marine waters or with rod and reel in Sitka area streams. In the Southeast region, salmon harvested with rod and reel and trolling tackle are, by regulation, sport-caught fish and are not documented through the current subsistence permit system, with the exception of the Redoubt Bay subsistence sockeye salmon fishery. Although the expanded permit estimates may be comparable to the number of fish actually harvested with dip nets and beach seines, the data available from the state permit system do not include some subsistence salmon harvests as they are actually occurring.

REFERENCES CITED

- Brown, C. L., D. Caylor, J. Dizard, J. A. Fall, S. Georgette, T. Krauthoefer, and M. Turek. 2005. Alaska subsistence salmon fisheries 2003 annual report. Alaska Department of Fish and Game, Division of Subsistence, Technical Paper No. 316, Juneau. <http://www.subsistence.adfg.state.ak.us/techpap/tp316.pdf>
- Fall, J. A. and R. Shanks. 2000. Statewide subsistence fisheries harvest monitoring strategy. Study number FIS 00-017 final report submitted by [the] Subsistence Fisheries Harvest Assessment Working Group. Alaska Department of Fish and Game, Division of Subsistence, and the Alaska Inter-Tribal Council, Anchorage.
- Walker, R. 2009. The validity and reliability of fisheries harvest monitoring methods, Southeast Alaska. Alaska Department of Fish and Game Division of Subsistence Technical Paper No. 286, Anchorage. <http://www.subsistence.adfg.state.ak.us/TechPap/TP286.pdf>
- Wolfe, R. J. 1989. Historic methods of harvesting non-commercial salmon in Southeast Alaska. Report to the Alaska Board of Fisheries meeting, Juneau, Alaska, February 1989. Alaska Department of Fish and Game, Division of Subsistence. Juneau.

APPENDIX A. 2005 SITKA SUBSISTENCE SALMON PERMIT

Alaska Department of Fish and Game
 Division of Commercial Fisheries
 304 Lake Street, Room 103
 Sitka, Alaska 99835

Fold Along Dotted Lines - Staple or Tape Closed

SUBSISTENCE/PERSONAL USE SALMON FISHING GUIDELINES				
Salmon Species	Limits		Season	Location
	Possession	Annual	Open Dates	
Sockeye	50	50	June 1-July 20	Hoktaheen Cove
	50	50	June 1-July 20	Takanis Bay*
	50	50	June 1-Aug. 15	Surge Bay, Klag Bay, Ford Arm, Lake Anna
	10	10	June 1-July 25	Leo's Anchorage
	10	10	June 1-July 31	Silver Bay (Salmon Lake)
	10	50	June 1-Aug. 31	Redoubt Bay***
	100	100	June 1-Aug. 31	Necker Bay
	50	50	June 1-July 31	Small Arm Whale Bay (Politofski Lake)
	50	100	June 1-Aug. 31	Redfish Bay
	50	50	June 1-Aug. 15	Hamus Bay (Lake Eva)
	50	50	June 1-Aug. 31	Sitkoh Bay
	10	20	June 1-July 20	Gut Bay
	50	50	June 1-July 13, & July 23-Aug 15	Falls Lake and Bay****
Pink	50	150	July 15-Sept. 30	C&T Areas within the Sitka Management Area*****
Chum	50	50	July 15-Oct. 31	C&T Areas within the Sitka Management Area*****
Coho	20	40	Aug. 16-Oct. 31	C&T Areas within the Sitka Management Area*****
			Sept. 1-Oct. 31	Redoubt Bay, Necker Bay, Redfish Bay, Sitkoh Bay
King	20	No Limit	July 1-Aug. 31	All streams draining into Sitka Sound east of a line from Makhnati I. to Cape Burumof.

* Takanis Bay is managed under Personal Use regulations and priority.
 ** For Redoubt Bay only initial limits and season are indicated.
 *** Redoubt Bay limits and season subject to change around July 15.
 **** Note that season at Falls Lake is CLOSED 7/14-7/22 and after 8/15.
 ***** C&T areas are specified under Specific Permit Conditions above.

Place Stamp Here

Alaska Department of Fish and Game
 Division of Commercial Fisheries
 304 Lake Street, Room 103
 Sitka, Alaska 99835

**APPENDIX B. SITKA SUBSISTENCE SALMON HOUSEHOLD
SURVEY INSTRUMENT, 2005**

SUBSISTENCE SALMON, TROUT AND CHAR HARVEST ASSESSMENT SURVEY – SITKA 2005

12. APPROXIMATELY HOW MANY MILES DO YOU USUALLY TRAVEL FROM YOUR HOME IN SITKA TO HARVEST SALMON?

_____ Miles

13. IN RECENT YEARS, HAVE YOU EXPERIENCED ANY DIFFICULTIES MEETING YOUR SUBSISTENCE SALMON NEEDS?

YES / NO

14. IF YOU HAVE EXPERIENCED DIFFICULTIES MEETING YOUR SUBSISTENCE SALMON NEEDS, WHY? PLEASE DESCRIBE.

15. IF CHANGES IN REGULATIONS ARE NEEDED TO ENSURE THE HEALTH OF SITKA AREA SOCKEYE, COHO OR KING SALMON STOCKS, WHAT DO YOU BELIEVE SHOULD BE CHANGED?

16. HOW MANY SOCKEYES DOES YOUR HOUSEHOLD NEED IN A TYPICAL YEAR? _____

17. HOW MANY COHO SALMON DOES YOUR HOUSEHOLD NEED IN A TYPICAL YEAR? _____

18. HOW MANY KING SALMON DOES YOUR HOUSEHOLD NEED IN A TYPICAL YEAR? _____

19. TYPICALLY, WHICH MONTHS DO YOU SUBSISTENCE HARVEST THE FOLLOWING FISH SPECIES FROM SITKA AREA WATERS?

(Circle months for each species)

SOCKEYE SALMON	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
PINK SALMON	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
CHUM SALMON	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
COHO SALMON	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
KING SALMON	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
STEELHEAD	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
RAINBOW / CUTTHROAT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
DOLLY VARDEN	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT

DO YOU HAVE ANY COMMENTS OR CONCERNS ABOUT SUBSISTENCE SALMON FISHING YOU WISH TO SHARE?

THANK YOU FOR YOUR TIME AND FOR HELPING WITH THIS PROJECT – GUNALCHEESH
 A summary of this subsistence fishing survey will be sent to the community next spring.